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THE INFLUENCE OF FATHER AND MOTHER INVOLVEMENT ON ADOLESCENT INTERNALIZING AND EXTERNALIZING SYMPTOMS

by

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THE INFLUENCE OF FATHER AND MOTHER INVOLVEMENT ON ADOLESCENT INTERNALIZING AND EXTERNALIZING SYMPTOMS

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Although much research has highlighted the importance of parents to adolescent well-being, very little work has focused on father involvement. Pleck's model of father involvement introduces a framework to examine fathers' influences on development. This study investigated Pleck's model of father involvement and its relevance to describing mother involvement, examined the relations between mother and father involvement and adolescent internalizing and externalizing symptoms, and explored the moderating role of adolescent gender on the relationships between mother and father involvement and adolescent internalizing and externalizing symptoms.

Data came from 52 intact heterosexual families where the mother, father, and adolescent child (ages 13-17) completed short online surveys. Mothers and fathers reported on their own involvement behaviors (positive engagement activities, warmth and responsiveness, control, indirect care, and process responsibility), and adolescents reported their internalizing and externalizing symptoms.

Bivariate correlations and reliability analyses indicated that the five components of father involvement in Pleck's model share more commonality for fathers than for mothers. Next, multiple regression analyses indicated that, while controlling on fathers' self-reports, mothers who reported higher levels of warmth and responsiveness and control had adolescent children with fewer internalizing symptoms. Fathers' self-reports

of all five involvement constructs were not significantly related to either internalizing or externalizing symptoms. Results also indicated that, while controlling on all mother-reported constructs of involvement, more maternal warmth and responsiveness was related to fewer adolescent internalizing and externalizing symptoms. In addition, while controlling on all father-reported constructs of involvement, higher levels of paternal positive engagement activities and lower levels of indirect care were related to lower levels of internalizing and externalizing symptoms, respectively.

When investigating the moderating effects of adolescent gender on the relationships between parental involvement and adolescent internalizing and externalizing symptoms, results indicated that the relationship between maternal process responsibility and adolescent externalizing symptoms was significant for boys but not significant for girls. In addition, the relationships between paternal warmth and responsiveness and adolescent externalizing symptoms, paternal control and adolescent internalizing symptoms, paternal indirect care and adolescent externalizing symptoms, and paternal process responsibility and adolescent externalizing symptoms was significant for boys but not significant for girls.

CHAPTER 1: Introduction

The emergence of internalizing (e.g., depression and anxiety) and externalizing (e.g., aggression and delinquency) symptoms is shown to have detrimental effects for adolescent development. Internalizing and externalizing symptoms have immediate effects on adolescent well-being, such that more symptoms are associated with poorer academic performance and social interactions (Loukas, Cance, & Batanova, 2016; Pate, Maras, Whitney, & Bradshaw, 2017; Yang, Bian, Chen, & Wang, 2016). Also, internalizing and externalizing symptoms can have negative long-term effects on well-being into young adulthood (Aebi, Giger, Plattner, Metzke, & Steinhausen, 2014; O'Connor, Sanson, Toumbourou, Norrish, & Olsson, 2017; Veldman, Bültmann, Almansa, & Reijneveld, 2015). Because of these effects, it is important to understand what can influence the emergence of internalizing and externalizing symptoms in adolescence.

Research consistently shows that parents have a significant influence on adolescent adjustment and well-being (Steinberg & Silk, 2002), and this influence is multidimensional and intricate. One large area of focus has been on the role of parent-child relationships and parent involvement in adolescent development, such that positive parenting practices and high-quality parent-child relationships (Barber et al., 2005) are associated with better outcomes and well-being for adolescents, including fewer internalizing and externalizing symptoms. Although research has long focused on the importance of parents in child development, the vast majority of this focus has been on the relationship between a mother and her child (Lamb, 2010). This narrow focus restricts our knowledge of parent-child relationships to only mothers, with very little focus on

fathers and their influence on development. Thus, although most research on parenting and parental influences focuses on heterosexual two-parent households, researchers only have a comprehensive understanding of mothers' influences on their children. Only recently have fathers garnered significant attention from parenting researchers.

Because of this narrow focus on mother involvement, researchers have yet to agree on an appropriate way to conceptualize father involvement. There is also little consensus on how to measure fathering and its influence on child development. Many theoretical models have been proposed, but few are able to represent a multidimensional view of father involvement. One new theoretical framework that does offer promise is the theoretical model of father involvement proposed by Pleck (2010). However, little research has been conducted to test the validity of this model, and almost no research has done so for adolescent development. The present study seeks to examine the dimensions of Pleck's model of father involvement and their relations to adolescent adjustment, specifically internalizing and externalizing symptoms.

Historical Focus of Research on Father Involvement

Compared to research focused on parenting behaviors in general and mother involvement, relatively little is known about the effects of father involvement on child development. Much of the lack of research on father involvement stems from the focus on mother involvement and the historical underestimation of father involvement in child development. Theoretical views of father involvement have dramatically changed in the past several decades, such that views of father involvement have shifted from father's being seen as filling a single core role in development to viewing fathers as multidimensional and active participants in their children's development.

Fathers were first seen as patriarchal heads of the family, acting as moral teachers and guides for their children. This view shifted towards conceptualizations of fathers as economic providers and breadwinners for their families during the economic boom of the United States' Industrial Revolution (Pleck & Pleck, 1997). This focus on fathers as the economic providers for their children persisted until the Great Depression, when high unemployment rates stripped many fathers of this role. During this period, researchers began to hypothesize that fathers' responsibility to their children was to act as gender role models. This was thought to be especially important for sons, because fathers were thought to model appropriate masculine behaviors for their sons (Lamb, 2000). However, it was acknowledged that fathers could also influence daughter's expectations of gender roles in general.

This focus on masculinity and the father's importance in embodying gender roles slowly faded throughout the late 1960s and early 1970s as a surge of research, such as feminist scholarly work, criticized this narrow framework (Pleck, 2004). Instead, the focus of father involvement shifted again, and this change was towards a more complex idea of fathers as active participants in their child's caregiving (Lamb, 1976). This new conceptualization was one of the first instances of researchers recognizing the multidimensional role of fathers as caregivers, teachers, and companions. This recognition of the complexities of father involvement bred an interest in studying similarities and differences between mother and father involvement. Research during the late 1970s through the 1980s found that there were significant differences between mothers and fathers in some observed parenting behaviors (Lamb, 1976; McLaughlin, White, McDevitt, & Raskin, 1983; Wierson, Armistead, Forehand, Thomas, & Fauber,

1990). Researchers consistently observed that mothers tended to spend the majority of their time meeting their children's emotional and physical needs, while fathers tended to spend the majority of their time playing with their children (Hossain, Lee, & Martin-Cuellar, 2015; John, Halliburton, & Humphrey, 2013; Parke, 1996). Only recently has research pushed back against the view that developed from these research findings, which stereotyped fathers as acting as advanced playmates, and embraced a conceptualization of fathers that illustrates their multidimensional relationships with their children. Modern conceptualizations of father involvement are now thought to include both play behaviors and traditional caregiving practices, including nurturing behaviors that promote positive child development (Lamb, 2010).

Theoretical Models of Fathering

Because of the dramatic shifts in how researchers have conceptualized father involvement throughout the past century and a half, many theoretical models have been used to explain the role fathers play in child development. Although some of the models were not initially developed to explain paternal involvement, they nonetheless have been adapted to help explain fathers' influences. Although some theoretical models are weak when used alone to describe father involvement, aspects of many of these frameworks can be combined to create a more multidimensional view of father involvement. The following section highlights several theories that have been used to explain fathers' roles in child development. Aspects of these theories have been used to develop Pleck's theoretical model of father involvement.

Attachment Theory. First introduced by John Bowlby (Bowlby, 1958; Bowlby, 1969), attachment theory is one of the most common theoretical explanations used for

understanding the importance of caregivers to child development. This framework suggests that, through parents' early caregiving actions, infants and toddlers develop a felt security to their parents that is an internalization of their parents' responsive and sensitive availability, and this felt security can soothe children in unfamiliar situations. This attachment is reflected in children's internal working models for their relationships, both current and future as attachment stabilizes, which the child uses to evaluate their relationships and anticipate their interactions with others. Attachment theory has roots in evolutionary theory, such that children are predisposed to develop attachments to caregivers, and this attachment aids in survival. Positive caregiving practices such as responding quickly and effectively to a child's needs promote the development of a secure attachment (Ainsworth, Blehar, Waters, Wall, 1978), which is the desired outcome. Secure attachments are related to numerous positive emotional, behavioral, and educational outcomes, and these beneficial effects can be seen concurrently and longitudinally throughout development (Jacobsen & Hofmann, 1997; Grossmann, Grossmann, Kindler, & Zimmermann, 2008; Thompson, 2008). Children who develop secure attachments and exhibit felt security early in life carry a positive internal working model with them throughout their life and will use that to self-soothe in unfamiliar situations and will seek out their attachment figure when they are distressed.

Although this theoretical framework was developed to explain the importance of caregivers in general to child development, this model is used to explain father involvement and children's attachment to fathers. Infants and toddlers are able to form attachments to their fathers as well as their mothers (Bretherton, 2010), although the attachment to the father frequently develops shortly after the attachment to the mother in

heterosexual two-parent households where the mother is the primary caregiver. Attachments to fathers are formed in a similar manner as attachments to mothers, and the same positive parenting practices that promote attachment to mothers also promote attachment to fathers (Main, & Weston, 1981). In addition, positive outcomes are associated with secure attachments to both mothers and fathers, with the associations sometimes being weaker with attachment to fathers than with attachment to mothers (Freeman, Newland, & Coyl, 2010).

Even though attachment theory works well to explain some of the influence of father involvement on child development, it is limited in its ability to describe behaviors about the parent-child relationship that are not related to parental responsiveness and sensitivity. A more nuanced model of father involvement that describes specific behaviors and actions fathers engage in to influence development can helps researchers better describe how and why fathers influence their children, and could enhance our knowledge of how attachment and felt security develops.

Essential Father Theory. First proposed to explain the importance of father involvement to child development, essential father theory suggests that fathers contribute to development in a unique manner that is essential to normative development in children, and that uniqueness is derived from a father's masculinity (Silverstein & Auerbach, 1999). This theory posits that fathers act as models of gendered behavior for their children, especially their sons, and having an involved father during childhood will promote the development of gender identity and lead to beneficial outcomes for both sons and daughters. Essential father theory also assumes that normal child development requires the presence of an involved father, and a lack of father involvement or a

completely absent father will result in adverse developmental outcomes. Essential father theory posits that this crucial paternal influence has longitudinal effects throughout childhood and into adolescence and adulthood, and those effects influence educational, relational, and behavioral outcomes (Sigle-Rushton & McLanahan, 2004).

Although the essential father theory was developed exclusively to explain the importance of father involvement in child development, it has crucial flaws that are important to recognize. First, this theory relies on an assumption that fathers are important to child development because of their masculine influence on children (Silverstein & Auerbach, 1999), but there is little evidence to suggest that having a father (i.e., a male parent) is necessary for positive child development. Research investigating parenting practices with same sex couples demonstrates that children who grow up in two-parent lesbian households have similar positive outcomes as two-parent heterosexual households (Biblarz & Savci, 2010), and have few to no negative outcomes that are not also observed in children raised in heterosexual households. This indicates that fathers are not crucial to child development because they provide an essential masculine presence, but rather fathers act as a second caregiver in the household, and the presence of the second caregiver promotes positive development in children. Thus, because essential father theory focuses on a father's masculinity, this model is inadequate in explaining the influence of father involvement on child development.

Identity theory. Another theory that is sometimes used to describe paternal involvement is identity theory. This framework suggests that a person's self-concept is composed of a set of identities, which are a set of values and expectations that are hierarchically organized (Fox & Bruce, 2001). These identities can represent any part of a

person's life, including, but not limited to, their relationships with others, gender identity, occupation, and religious affiliation. This hierarchy of identities establishes a person's internalized expectations for how he or she should behave and what he or she should value or believe, which influence his or her self-expression and relationships. A single identity's location within the hierarchy, also known as salience (Stryker, 1987), influences how much that particular identity, and by extension the roles and values associated with it, are respected and evoked during any action or situation. The development of a person's hierarchy is not strictly internally influenced. The value other people place on a particular identity, which that person does not need to have adopted for themselves, also influences if a person will adopt an identity and where that identity will be located within their identity hierarchy (Stryker, 1968).

When investigating paternal involvement, identity theory suggests that men who are involved in promoting their child's development have adopted a strong identity as a father, and that identity is robustly valued within that man's hierarchy (Rane & McBride, 2000) and could also be highly valued by his spouse. Thus, providing a nurturing father-child relationship and a stimulating environment to his child gives the father a sense of fulfillment and bolsters the father identity he has adopted. This reinforcement will then promote future positive interactions between the father and child, which will also promote further development. Although this theory can be used to understand generally why fathers promote child development, it is not very useful for understanding how fathers influence child development outside of identity development, as its core focus is understanding and describing fathering in general rather than discerning the effects of father involvement on specific aspects of development.

Social capital theory. Another theory that is used to understand paternal involvement in child development is social capital theory. This theory suggests that parents provide capital, which is any resource (both tangible and intangible) that can promote development, to their children in two forms: financial and social capital (Coleman, 1988). Financial capital is any tangible items or goods that promote development, such as food, clothing, and shelter. Social capital can be any parenting behaviors, such as educational practice and training or socialization of positive habits, as well as any connections that parents may have to the community, such as employment status or social network, that promote child development. These types of capital and their importance may fluctuate throughout development, with some forms of capital being more important than others in different periods of development (Woolcock & Narayan, 2000). Regardless of variations in the importance of the particular types of capital, capital in general is thought to benefit child development through its ability to prepare children for current and future success.

Social capital theory helps us understand how father involvement influences child development by acknowledging that fathers influence their children throughout the lifespan. These influences through capital can fluctuate as the child grows, with some becoming more important throughout childhood and adolescence (e.g., social networking to assist in educational placements), while others become less important (e.g., providing food or teaching rudimentary educational skills). In this theoretical framework, fathers are thought to provide more financial capital but less social capital than mothers (Amato, 1998). Although this may have been true historically, changes in the current US economic state of affairs has led to more mothers entering the workforce than in previous

decades (Boushey, 2009), indicating that mothers may be providing more financial capital than previously thought. In addition, these observed changes may mean mothers would have less time to provide social capital to their children, allowing fathers to step in and provide more social capital than previously thought.

Although social capital theory does help researchers understand some features of paternal involvement in child development and highlights the influences fathers have throughout the lifespan, it relies too heavily on explanations of economic support to fully describe fathers' roles in development. In addition, it focuses almost exclusively on a unidirectional model where the parent provides something tangible or relational to the child, which then promotes child development. There is no recognition that the parent-child relationship is bi-directional, with both father and child having effects on each other's behaviors, beliefs, and development.

Bioecological model. Proposed by Urie Bronfenbrenner (Bronfenbrenner & Morris, 1998), the bioecological model, also known as ecological systems theory, proposes that a child's development is influenced by multiple levels of social interactions that surround the child and are nested within each other, such that the exterior structures influences the interior. These levels are organized around the proximity a particular person, relationship, or entity has with the child, such that the closest level is inhabited by the child and her closest relationships, and the most distal level encompasses events that are chronological and sociohistorical influences on development. The bioecological model focuses on enduring interactions between these levels, the people within them, and the interactions they have with the child, known as proximal processes (Bronfenbrenner & Morris, 2006), and these interactions are relational rather than internal. This assumes

that relationships rather than internal processes are the primary drivers of development. Due to this assumption, this model stresses the importance of parents in child development due to parents' close, complex, and enduring relationships with their children.

The bioecological model helps researchers to understand father involvement because of the father's placement within their child's developmental system. Fathers are assumed to be a significant part of the family microsystem (i.e., the closest system to the child) in the majority of two-parent heterosexual families. Within the microsystem, fathers have frequent and important interactions directly with the child, as well as with any other close family members who regularly interact with the child. These frequent interactions then influence a child's development.

Although the bioecological model may be useful in describing overall parental involvement, the focus of the bioecological model is to describe the different levels of interactions that influence development, and it does not focus on the specific actions and behaviors mother and fathers engage in to influence child development. In addition, Bronfenbrenner's descriptions of the importance of fathers to their children's developmental systems has typically been stereotypic, with particular focus on fathers' employment status and fathers' roles as helpers to mothers (Bronfenbrenner, 1986; Bronfenbrenner & Evans, 2000). An elaborated and nuanced model of father involvement may be valuable in describing concrete behaviors and actions that are important for father involvement.

Theoretical model of father involvement. First proposed by Lamb and colleagues (Lamb, Pleck, Charnov, & Levine, 1985) and later expanded by Pleck (2010),

this theoretical model describes paternal involvement as a multidimensional construct that influences child development through two modalities: direct father-child interactions and indirect monitoring of processes that impact child development. This framework suggests that father involvement is predominantly composed of five components: positive engagement activities, warmth and responsiveness, control (i.e., monitoring), indirect care, and process responsibility. Three of these components describe behaviors that directly involve the child (i.e., positive engagement activities, warmth and responsiveness, and control), while the remaining two components describe parenting behaviors that do not directly involve the child (i.e., indirect care and process responsibility), and instead focus on behaviors or beliefs that indirectly influence child development. This model adopts concepts from the previously mentioned theoretical frameworks (Pleck, 2012), but focuses specifically on the father's actions and knowledge to explain fathers' influence on their child's development. It is important to note that this model purposely omits more traditional conceptualizations of parenting behaviors that are stereotyped as important aspects of father involvement, such as economic responsibility (i.e., breadwinning), because more recent research has shown that the benefits provided by fathers' financial support are much more a function of social class and opportunity rather than an action taken by fathers to promote development (McLoyd, 1998).

The model of father involvement is a novel framework for understanding and studying father involvement due to its multidimensional approach to understanding how fathers can influence their children directly and indirectly. The model is also not limited to any developmental stage, and it combines other conceptualizations of father involvement. All five components are important aspects of the father-child relationship

throughout development, but, similar to social capital theory, some components might be more strongly related to development and child outcomes than others in certain developmental periods. In addition, this framework allows researchers to conceptualize some characteristics of father involvement as similar to mother involvement by including constructs such as warmth and responsiveness, which many other frameworks do not permit. Also, this model assumes that the father-child relationship is multidimensional and is also influenced by mother involvement. Thus, this theoretical framework includes components to measure both the father-child relationship and the father's knowledge of the mother's contribution to child development. Finally, another strength of this model is that, due to its focus on parenting behaviors that can, and frequently do, overlap between mothers and fathers, this framework may not exclusively explain father involvement within a heterosexual two-parent household. This model could also potentially be used to describe mother involvement, as well as overall parental involvement in same-sex households. Because of these strengths, the present study uses this theoretical framework to explore the influence of father involvement on adolescent well-being and to test whether this theoretical framework also applies to maternal involvement.

Components of the Theoretical Model of Father Involvement

Pleck's theoretical model of father involvement consists of five components: positive engagement activities, warmth and responsiveness, control, indirect care, and process responsibility (Pleck, 2010). In this section, these concepts will be described further.

Positive engagement activities. Any activity in which a father actively engages with his child is considered a positive engagement activity. These activities can be

recreational, such as playing a sport or game together, can serve to guide or teach the child skills, such as helping the child with his or her homework, or can be a combination of these categories, such as cooking a meal together. A core component of this concept is its bidirectional nature. The focus of positive engagement activities is not, as traditionally thought, the total amount of time a father spends with his child, but rather the specific activities and actions done together that can promote child development.

Although past research has focused on the total amount of time a father spends at all with his child (Pleck & Masciadrelli, 2004), this revised conceptualization of father involvement focuses on a father's intentional and active behaviors and decisions to spend time with his child. This distinction is important because more traditional measurements of engagement, which focused on total amount of time spent with a child, failed to consistently demonstrate associations between amount of time spent with the child and positive developmental outcomes (Hawkins & Palkovitz 1999). Also, many traditional measures of paternal time spent with children did not distinguish between a father passively being around his child but not engaging with his child and a father actively interacting with his child. In contrast, studies that focus on examining active engagement with children have demonstrated that more active paternal engagement with children is associated with positive developmental outcomes such as improved educational outcomes, fewer delinquent behaviors and depression symptoms, and lower cortisol responses (Coley, Votruba-Drzal, & Schindler, 2009; Cookston & Finlay, 2006; Ibrahim, Somers, Luecken, Fabricius, & Cookston, 2017; Varghese & Wachen, 2016). Thus, the construct of positive engagement activities represents a more interactive facet of father

involvement than simply the presence of a father around his child and has already been established in previous research as an important factor of father involvement.

Warmth and responsiveness. This construct is seen as one of the more conventional measures of parental involvement, and is very similar to other parental support conceptualizations (Pleck, 2010). It represents the comfort and emotional support a child receives from his or her parents, either through a parent's explicit expressions of love and care or through the desire to engage positively with his child. In addition, this construct can represent the quality of the father's ability to recognize his child's problems and respond quickly and effectively to promote development. Research has demonstrated that a warm and supportive relationship with one's father has positive influences on various social, behavioral, and educational outcomes throughout child development (Amato & Rivera, 1999; Hoeve, Dubas, Eichelsheim, van der Laan, Smeenk, & Gerris, 2009; Martin, Ryan, & Brooks-Gunn, 2010; Yap, Cheong, Zaravinos, Lubman, & Jorm, 2017). Thus, the construct of warmth and responsiveness has been highlighted as an important aspect of paternal involvement.

Control. Like warmth and responsiveness, control is seen as a more traditional construct for studying parenting behaviors in general. Control is defined as a father's ability to monitor his child's actions, as well as set and enforce boundaries that affect his child's development. It is important to note that this construct can be seen as embodying some aspects of the similar parenting concept of parental monitoring (Barber, Stolz, Olsen, Collins, & Burchinal, 2005; Stattin & Kerr, 2000), which also focuses on the knowledge a parent has of his or her child's actions and social circles. Previous research has demonstrated that paternal control, as demonstrated by setting rules and boundaries

and monitoring children's whereabouts and social interactions, is associated with positive adjustment throughout child development (Carlson, 2006; DelPriore, Schlomer, & Ellis, 2017; Kerr & Stattin, 2000; Mattanah, 2001; Mullis, Smith, & Vollmers, 1983; Villarreal, & Nelson, 2018). These results indicate that paternal control may be an important factor of father involvement.

Indirect care. Unlike the first three concepts, the next two are not well utilized within current parenting and father involvement literature. Also, the constructs of indirect care and process responsibility are more indirect in nature, and do not require the child's participation in order to influence child development. Indirect care is defined as any action taken by the father to promote development that does not directly involve the child. This can include ensuring the child's material needs are being met (e.g., purchasing groceries, clothing, or school supplies) and developing social connections for the child (e.g., fostering social connections or setting up interviews). It does not include acting as a jobholder, even though this action indirectly provides funds for the child, as those funds are not earned solely for the child's benefit. Instead, the construct of indirect care focuses on financial and social actions that are done specifically to promote the father-child relationship and child development. This concept can be seen as a reflection of social capital theory (Coleman, 1988).

Although it is not well examined in empirical work, some research suggests that the concept of indirect care does have a beneficial effect on development. Aspects of indirect care, such as communication with teachers, were related to problem behaviors in early childhood (Smith & Hubbard, 1988), such that better parent-teacher communication was associated with fewer problem behaviors. However, other aspects of indirect care,

such as completing household chores, have not been found to be related to adolescent well-being (Duckett, 1997). Because of these conflicting results, it is important to investigate if the concept of indirect care does benefit child development.

Process responsibility. Finally, the newest construct of this model of father involvement is process responsibility. It is defined as a father's ability to recognize the child's needs in the areas of positive engagement activities, warmth and responsiveness, control, and indirect care and to monitor that those needs are being met in some way. This is an especially important construct for fathers because, although research has shown that mothers provide the majority of care for a child (Craig, 2006; Craig & Mullan, 2011; McBride, & Mills, 1993), a father's ability to recognize that the child's needs are being met can indicate that he is involved and invested in promoting his child's development. In addition, this construct may become more important as a child ages. As a child moves into adolescence, parents may spend less time meeting a child's needs themselves, and will instead monitor that their child's needs are met through other means (e.g., a part time job can provide adolescents with funds to buy their own clothing, while close, reciprocated friendships can provide warmth and responsiveness).

Although there is limited research on this construct, some empirical evidence suggests that process responsibility is related to other father involvement concepts. Research has shown that process responsibility is related to fathers' engagement with their children in dual income homes (McBride & Mills, 1993), which could indicate that process responsibility is a construct of father involvement. More research is needed to determine how process responsibility is related to child development and well-being.

Together, these five constructs of father involvement represent a father's intentional promotion of development in his child. The majority of research on parenting and father involvement has focused almost exclusively on the first three components (positive engagement activities, warmth and responsiveness, and control), with little research being done on the newer constructs of indirect care and process responsibility (Pleck, 2010, p. 69). The current study seeks to examine all five constructs simultaneously and provide a better understanding of how these five constructs are associated with adolescent well-being.

Application of the Theoretical Model of Father Involvement to Mothers

Although the theoretical model of father involvement was developed to describe fathers' contributions to child development, it is possible that this model could also work well to describe mother involvement. Research has shown that mothers and fathers in the same household tend to display similar or complementary parenting styles (Simons, & Conger, 2007). In addition, research shows that previously stereotyped differences in parenting behaviors may not be as definitive as once believed (Pleck & Masciadrelli, 2004), and mother and fathers tend to have significant overlap in what parenting behaviors they exhibit and activities they engaged in with their children.

All five constructs that form Pleck's model of father involvement could easily translate well to describing mother involvement. Components such as warmth and responsiveness, control, and positive engagement activities have already been shown to be significant facets of mother-child relationships that promote beneficial child development (Grusec, 2011). In addition, empirical work has shown that constructs similar to these three factors of Pleck's model are related to positive well-being in

adolescents. Research has shown that more maternal and paternal monitoring, which is an aspect of parental control, is related to fewer adolescent problem behaviors such as delinquency, aggression, depression symptoms, and risky sexual behaviors (Barber et al., 2005; Kalina, Geckova, Klein, Jarcuska, Orosova, van Dijk, & Reijneveld, 2013). Parenting practices such as warmth and positivity and emotional expressiveness, which are components of parental warmth and responsiveness, have been associated with more effortful control in children, which is related to emotion regulation (Eisenberg, Zhou, Spinrad, Valiente, Fabes, & Liew, 2005), and more emotional understanding, which can contribute to internalizing symptoms (Halberstadt & Eaton, 2003). Little is known about the constructs of indirect care and process responsibility and the ability of these constructs to accurately portray mother involvement.

In addition, research has found that the effects of mother involvement tend to be stronger than the effects of father involvement. A recent meta-analysis indicated that, for academic achievement, the effect of father involvement was smaller than what previous research had found for mother involvement (Jaynes, 2015). It is important to consider that these differences could affect how the different constructs are related to each other for mothers and fathers. If mothers do have a larger statistical effect than fathers, investigating mother and father effects simultaneously could make father effects non-significant, which could make it appear as though only mothers have an impactful influence and that fathers do not affect their children's well-being.

Understanding how Pleck's model of father involvement applies to mothers can help illuminate how similar mothers and fathers are in their parenting practices. In addition, it can help researchers determine if it is appropriate to use similar theoretical

models to examine mothers and fathers, or if different models are needed when investigating mothering and fathering behaviors. Recent research has highlighted the need to expand our understanding of maternal and paternal parenting behaviors (Cabrera, Volling, & Barr, 2018), and introducing a new model of involvement that may apply to mothers and fathers can help to enrich researchers' understanding of parenting. Thus, the current study seeks to examine the appropriateness of all five factors in describing maternal involvement as well as father involvement (research question 1).

Studying Father Involvement in Adolescence

Little research has tested Pleck's model of father involvement. Those studies that have used this model may not have used all five factors, and instead focus on the three that are consistent with existing parenting research (i.e., positive engagement activities, warmth and responsiveness, and control) (Kim & Hill, 2015; Pudasainee-Kapri & Razza, 2015; Roubinov, Luecken, Gonzales, & Crnic, 2016). Also, any research using Pleck's model of father involvement has focused almost exclusively on early and middle childhood (Kennedy, Betts, Dunn, Sonuga-Barke, & Underwood, 2015), with little to no focus on adolescent development and well-being.

Pleck's model of father involvement should be tested throughout development because research has shown that the relationships between parents and their children change as a child ages (Roberts, Block, & Block, 1984) and because Pleck proposes that the model may be applicable to all stages of child development (Pleck, 2010). With these changes, certain facets of the model of father involvement may be associated with adolescent development more than others. Adolescence is a period marked by growing independence from caregivers (Steinberg & Silk, 2002), with youths beginning to earn

income through part-time employment, build more complex and intimate friendships, and have romantic relationships. These changes in an adolescent's circumstances could have an influence on a father's involvement by demanding that he shift towards adopting a more indirect role of monitoring of adolescent well-being rather than active involvement and engagement with his child.

When analyzed through the lens of the model of father involvement, it is possible that the constructs of indirect care and process responsibility, which have been largely ignored in the literature, will become more important in adolescence. For example, fathers of adolescents may spend less time actively comforting (i.e., warmth and responsiveness) their children and engaging in mutual activities, but that time and effort may shift towards the active monitoring (i.e., process responsibility) of a child's close friendships and relationships to ensure that those emotional needs are being met by the peers with whom adolescents choose to spend their time (Szwedo, Hessel, Loeb, Hafen, & Allen, 2017). In addition, fathers may spend more time working to ensure that their children have the resources necessary to be successful in adulthood (i.e., indirect care), such as connections to employment and higher education opportunities, than they would for younger children. This is because adolescents may begin to focus on their careers and the possibility of beginning higher education. Because so little research has been conducted to fully investigate Pleck's model of father involvement in adolescence, more research is needed with the five-factor model in order to establish if these age-related differences in father involvement are present.

Associations between Father Involvement Model and Adolescent Well-Being

Internalizing symptoms (i.e., depression and anxiety) and externalizing symptoms (i.e., aggression, delinquency, and substance use) in adolescence have immediate and longitudinal effects on well-being and development. Internalizing symptoms have been linked to problems such as poorer academic achievement, increased substance abuse, and an increased rate of suicide (Khoddam, Jackson, & Leventhal, 2016; Liu, Chen, & Lewis, 2011; Weidman, Augustine, Murayama, & Elliot, 2015). Externalizing symptoms have been linked to higher rates of substance abuse, poorer academic outcomes, and increased likelihood of engagement in criminal activities (Farmer, Gau, Seeley, Kosty, Sher, & Lewinsohn, 2016; Lewis, Asbury, & Plomin, 2017; Van der Ende, Verhulst, & Tiemeier, 2016). In addition, internalizing and externalizing symptoms are frequently shown to be associated with each other (Weeks, Ploubidis, Cairney, Wild, Naicker, & Colman, 2016), indicating comorbidity between internalizing and externalizing symptoms. Because of the impacts these problems have on adolescent well-being and later development, it is important to understand what can help prevent these symptoms.

Research has already established that positive parent-child interactions, both with mothers and fathers, promote adolescent well-being and decrease internalizing and externalizing symptoms (Barber et al., 2005). However, the majority of this research has focused on only a few of the dimensions described in the model of father involvement (Pleck, 2010), in particular the more traditional constructs of positive engagement activities (usually represented in empirical work as the traditional construct of time spent with parents), control (frequently identified as monitoring in the larger body of literature), and warmth and responsiveness.

Desha and colleagues (2011) demonstrated that, in a sample investigating the effects of primary caregivers (the majority being mothers), more time spent with parents was related to fewer depressive symptoms both directly and indirectly through parental acceptance. Research investigating the relationship between parental substance use and adolescent substance use found that more time spent with a parent was related to less adolescent drug use (King, Vidourek, & Wagner, 2003). Studies investigating concepts related to parental warmth and responsiveness have demonstrated that more perceived parental support is related to fewer anxiety and depression symptoms and higher self-esteem (Rueger Malecki, & Demaray, 2010; Smokowski, Bacallao, Cotter, & Evans, 2015). In a longitudinal study investigating the relationships between maternal and paternal control and delinquent behaviors, results indicated that a decrease in parental control was related to an increase in delinquent behaviors for adolescents whose parents display low parental support, but a decrease in parental control was related to a decrease in delinquent behaviors for adolescents whose parents display high parental support (Keijsers, Frijns, Branje, & Meeus, 2009).

In addition, research examining concepts related to parental control, such as parental monitoring, showed that parental monitoring was related to less substance use and aggressive behaviors (Kelly, Becker, & Spirito, 2017; Padilla-Walker, Coyne, & Collier, 2016). Little to no research has focused on either indirect care or process responsibility and the associations between these constructs and adolescent adjustment. Although many of these studies do not explicitly investigate paternal influences and how they are similar to and different from maternal influences, these studies investigating

maternal involvement or overall parental involvement do illustrate the importance of these constructs in their relations to adolescent internalizing and externalizing symptoms.

It is important to examine adolescent well-being and its associations with the five-factor model of father involvement because the inclusion of all five constructs can give researchers a more nuanced view of the relationships between parental involvement and adolescent well-being than what has already been established in the literature. More nuanced views of these relationships can then be used to develop more focused interventions aimed at improving the parent-adolescent relationship to prevent adolescent problem behaviors. The current study seeks to use the complete model of father involvement for both mothers and fathers to examine associations between parental involvement and adolescent internalizing and externalizing symptoms (research questions 2 and 4).

Possible Moderators of the Associations between Involvement and Adolescent Well-Being

It has long been theorized and demonstrated in empirical work that mother and father involvement influences sons' and daughters' well-being differently. Empirical work highlights that the relationships between same sex parent-child relationship quality and outcomes can be stronger than those of other sex parent-child dyads (Hoeve, Dubas, Eichelsheim, van der Laan, Smeenk, & Gerris, 2009). This indicates that father involvement may been particularly important for reducing internalizing and externalizing symptoms in boys, while mother involvement may be more important for reducing internalizing and externalizing symptoms in girls. In addition, research has shown that girls tend to exhibit more internalizing symptoms than boys (Telzer & Fuligni, 2013), and

boys at times, but not always, tend to exhibit more externalizing symptoms than girls (Rocchino, Dever, Telesford, & Fletcher, 2017).

Because these differences are sometimes found, it is important to test for possible gender differences in Pleck's Model of Father Involvement. Because little empirical work has focused on the full model of father involvement, finding differences between sons and daughters in this model that have also been found with other theoretical frameworks can help to establish this model's place in the broader literature. In addition, testing for gender differences in this model, which includes constructs that have not been researched well, could highlight some relationships that were previously unidentified. The current study seeks to investigate if the relationships between maternal and paternal involvement and adolescent internalizing and externalizing symptoms are similar or different for girls and boys (research question 3).

Theory and research have established that parents have a large influence on their child's development, and these influences continue throughout adolescence. However, compared to research focused on mothers, less is known about the influence fathers have on adolescent development. Because of shifts in how researchers have viewed the role of father involvement, no clear consensus has been established for how to accurately conceptualize and study father involvement. Several theoretical models have been proposed, but few highlight the active and multidimensional role fathers have in their children's development. Pleck's model of father involvement (Pleck, 2010) allows for the exploration of active and multidimensional father involvement, but this framework has not been adequately empirically tested with all five core components. This model may be

particularly salient for adolescent well-being because the model acknowledges a father's ability to promote development through direct and indirect means.

Present Study

Due to the sparse literature on father involvement in adolescence, more research is needed to fully understand the importance of fathers in adolescent development. This study is one of the first to test Pleck's model of father involvement, apply the model to mother involvement, and investigate its associations with adolescent internalizing and externalizing symptoms. This study seeks to answer four main questions: (1) Is there evidence that the five components of Pleck's theoretical model are part of a broader construct of father involvement and mother involvement during adolescence? (2) How are mother and father involvement each associated with adolescent internalizing and externalizing symptoms? (3) Are the associations between mother and father involvement and adolescent internalizing and externalizing symptoms moderated by the adolescent's gender? and (4) Do the new components from Pleck's model of father involvement (i.e., indirect care and process responsibility) make a unique contribution to adolescent internalizing and externalizing symptoms?

Hypotheses

The present study tested several separate hypotheses in order to investigate father and mother involvement and the associations they have with adolescent well-being. Overall father involvement was expected to include five distinct components: positive engagement activities, warmth and responsiveness, control, indirect care, and process responsibility. It was hypothesized that these five components would also describe

mother involvement for adolescents as well, but with some slight differences. Specifically, it was expected that indirect care and process responsibility would be represented more in the father involvement model than in the mother involvement model, while some of the more traditionally studied parenting practices, such as positive engagement activities and warmth and responsiveness, would be represented more in the mother involvement model than in the father involvement model.

Regarding the associations between mother and father involvement and adolescent well-being, it was hypothesized that less of each father involvement construct and less of each mother involvement construct would be associated with higher levels of internalizing and externalizing symptoms. It was expected that these associations will be moderated by the adolescent's gender. Specifically, it is hypothesized that the relationships between father involvement and internalizing and externalizing symptoms will be stronger in sons than in daughters. Also, the associations between mother involvement and internalizing and externalizing symptoms will be stronger for daughters than for sons. Finally, it was hypothesized that the constructs of indirect care and process responsibility would uniquely contribute to adolescent internalizing and externalizing symptoms. Specifically, both maternal and paternal indirect care and process responsibility would be associated with fewer adolescent internalizing and externalizing symptoms while controlling on maternal and paternal positive engagement activities, warmth and responsiveness, and control.

CHAPTER 2: Methods

Participants

The sample consisted of data from 52 two-parent, intact heterosexual families with an adolescent child (ages 13-17). Participants were a mother (*M*age = 44.89 years, *SD* = 5.46), father (*M*age = 47.00 years, *SD* = 5.28), and adolescent child (*M*age = 15.00 years, *SD* = 1.35; 54.2% female) living together at the time of data collection. The entire sample consisted of white families where the mother and father were currently married to each other. The majority of mothers (87.3%) and fathers (70.4%) had completed at least a four-year college degree.

Procedure

Participants were recruited from a Midwestern urban area and the surrounding rural communities. Because research has shown fathers are reluctant to participate in research and tend to assume mothers are preferred for research participation (Lewis, 2009), special efforts were made to ensure that participants understood the need for fathers to participate with mothers and adolescents.

Participants were recruited primarily through two means: flyers (both electronic and paper) and in person. The researcher contacted local schools, churches, and community organizations to receive permission to recruit participants at their events and provide flyers to the families that frequented those venues. Flyers were hung on community bulletin boards and distributed electronically through newsletters and local online community forums. Families recruited in person provided their contact information to researchers at the time of recruitment and were contacted within 24 hours

of speaking to the researcher. Families recruited through flyers were asked to contact the researcher either by phone or by email and received a response from the researcher within 24 hours.

Each family member completed a short, online survey (15-25 minutes for parents, 20-30 minutes for adolescents), which was administered through Qualtrics. At the time of recruitment, family members provided their email address and/or phone number, through which the researcher sent a link to the online survey. Adolescents were not sent the link to their surveys until after their mothers consented to their participation. After the entire family (mother, father, and adolescent) completed the survey, each family was compensated with a $25 Amazon gift card, and each family member (mother, father, and adolescent) was entered into three separate raffles to win one of two $50 Amazon gift cards.

Measures

Parental involvement. Mothers and fathers each answered questions about their own parental involvement with their adolescent child.

Positive engagement activities. Fathers and mothers each responded to a five-item measure asking, "How frequently have you engaged in the following activities with your child in the past three months?" (e.g., "go shopping") which was developed by Coltrane, Parke, and Adams (2004). This measure was developed to describe how parents interact with their adolescent children and at what frequency that occurs, and it has been validated and shown to be associated with adolescent adjustment (Leidy et al., 2011). However, after reviewing other measures of positive engagement activities (Essau,

Sasagawa, & Frick, 2006; Harris, Halpern, Whitsel, Hussey, Tabor, Entzel, & Udry, 2009; Raskin, Boothe, Reatig, Schulterbrandt, & Odle, 1971), it was determined that this scale did not fully represent the construct as described by Pleck (2010). In addition, the original response scale, a five-point Likert-type scale ranging from 1 (*never*) to 5 (*very often*), was determined to be too vague and did not give specific details about the frequency within the three-month time period specified by the question prompt. To rectify these issues, six additional items were added: "attend church or other religious service," "help with homework or a school project," "attend a community event or festival," "have a conversation," "watch television together," and "eat a meal together," and the response scale was changed to a six-point Likert-type scale ranging from 1 (*never*) to 6 (*almost every day*).

Because changes were made to the scale, measurement coherence needed to be re-established. Because of the small sample size, a confirmatory factor analysis could not be conducted to examine the measurement coherence. Instead, the steps outlined by Watson and Clark (1995) were used to determine if the individual items could be used to create an overall scale. First, bivariate correlations between all potential items were computed. Next, the associations between the items were investigated to determine if each correlation coefficient fell within the range of .15-.50. Items with correlations less than .15 indicate that the items are not related in a way that would be meaningful for scale creation, while correlations above .50 indicate that items may describe very similar concepts and may lead to redundancy within the scale. Items with correlation coefficients that do not consistently fall within the range of .15 -.50 should be dropped from the scale.

Bivariate correlations among all 11 potential scale items were computed. The correlations were calculated separately for mothers and fathers in order to provide specific information about how each item was related to the others for mother and fathers. Having separate correlation analyses for mothers and fathers allowed the researcher to account for differences between the inter-item correlations for mothers and fathers during scale formation instead of averaging across mothers and fathers.

For mothers, the items "go shopping (2)," "play a sport or participate in an outdoor activity (3)," "go to entertainment, movies, or sporting events (4)," "help with homework or a school project (5)," "bake or cook a meal together (8)," "watch television together (10)," and "eat a meal together (11)" had significant positive relationships with several other potential scale items (see Table 1). The items "attend a community event or festival (6)," "play a video game, board game, or other indoor activity (7)," and "have a conversation (9)" each only had one significant positive relationship with other potential items, and the "attend church or other religious service (1)" item had no significant relationships with other items.

For fathers, the items "go shopping (2)," "play a sport or participate in an outdoor activity (3)," "play a video game, board game, or other indoor activity (7)," "bake or cook a meal together (8)," "have a conversation (9)" "watch television together (10)," and "eat a meal together (11)" had significant positive relationships with several other potential scale items (see Table 2). The items "attend church or other religious service (1)," "go to entertainment, movies, or sporting events (4)," and "attend a community event or festival (6)" each only had one significant positive relationship with other

potential items, and the “help with homework or a school project (5)” item had no significant relationships with other items.

With a goal to keep the inter-item correlations within the range of .15-.50 established by Watson and Clark (1995), the researcher determined that several items should be dropped from the measure. Specifically, the items “attend church or other religious service (1),” “attend a community event or festival (6),” and “have a conversation (9)” were dropped from the measure because of their sparse relationships with other items in the scale for both mother and fathers. In addition, after investigating the relationships with the remaining items for mother and fathers, it was determined that the items “help with homework or a school project (5)” and “eat a meal together (11)” should also be dropped from the measure. The item “help with homework or a school project (5)” was dropped because, although it showed adequate relationships with some items for mothers, it was not significantly related to any of the retained items for fathers. The item “eat a meal together (11)” was dropped from the measure for a similar reason; although there were some significant relationships, especially for mothers, the relationships were sporadic and not nearly as consistent for fathers.

The final measure of positive engagement activities consisted of six items (see Table 3). Reliability analyses indicated that the measure had adequate fit for both mothers (α = .70) and fathers (α = .71). The six items were averaged to create separate positive engagement activity scales for mothers and fathers, respectively. Higher scores indicated more frequent positive engagement in activities with his/her child.

Warmth and responsiveness. Fathers and mothers responded separately to the 11-item Warmth and Involvement subscale of the Parenting Styles and Dimensions

Questionnaire (PSDQ; Robinson, Mandleco, Olsen, & Hart, 1995), which was developed to examine warmth and responsiveness as it relates to the authoritative parenting style (Baumrind, 1991). Parents rated how often they exhibit certain behaviors of warmth and responsiveness to their child, e.g., "I am responsive to my child's feelings or needs." Response options were on a five-point scale ranging from 1 (*never*) to 5 (*always*). The 11 items were averaged to create separate warmth and responsiveness scales for mothers and fathers. A review of the reliability and validity of this measure can be found in Olivari, Tagliabue, and Confalonieri (2013). This measure demonstrated adequate reliability for both mothers ($\alpha = .80$) and fathers ($\alpha = .87$) in this sample.

Control. Fathers and mothers responded separately to a nine-item Parental Monitoring scale developed by Stattin & Kerr (2000) to examine how much parents know about their adolescent's whereabouts, social relationships, and actions. Parents were asked how much they know about the child's whereabouts, actions, and academic performance, e.g., "Do you normally know where he/she goes and what he/she does after school?" Response options were on a five-item scale that changed to fit each question, ranging from 1 (e.g., never) to 5 (e.g., almost always), with higher scores indicating more parental control. The nine items were averaged to create separate control scales for mothers and fathers. Past research has established that this measure is reliable and valid and is related to adolescent adjustment (Kerr & Stattin, 2000; Stattin & Kerr, 2000) This measure showed adequate reliability for both mothers ($\alpha = .66$) and fathers ($\alpha = .74$) in this sample.

Indirect care. To date, no measure of parents' indirect care in adolescence has been developed that describes how parents are responsible for actions or behaviors that

impact the adolescent's development but do not directly involve the child. To begin to measure development (following the steps outlined by Clark & Watson, 1995), the researcher conducted a review of literature that discusses indirect care and concepts similar to indirect care. From this review, it was determined that three categories of indirect care would describe the construct well: indirect care related to financial means (i.e., purchasing items for the child or assisting with the child's finances), indirect care related to social relationships (i.e., fostering relationships with teachers or friends), and indirect care related to basic caregiving tasks (i.e., performing tasks or doing household chores). Items were developed to represent indirect care related to financial means (three items), indirect care related to social relationships (four items), and indirect care related to basic caregiving tasks (five items). Fathers and mothers each responded to all 12 items indicating how often they were responsible for each form of care (see Tables 4 and 5). Response options ranged from 1 (*never*) to 5 (*always*).

The same steps that were followed for the positive engagement activities scale were conducted for the measure of indirect care to determine if these items hold together as a scale (Clark & Watson, 1995). The bivariate correlations between all 10 potential items were computed. Again, correlations were computed separately for mothers and fathers. For both mothers and fathers, all 10 potential items had significant positive relationships with several other items (see Tables 4 and 5). Using the same cutoff criteria as described above, it was determined that all 10 items should be included in the measure. Although the items "purchasing groceries (4)" and "cooking/preparing meals (8)" had much higher correlations with some items for fathers than the .50 upper limit cutoff, these

two items were retained because they showed more moderate inter-item correlations for mothers.

The final measure of indirect care consisted of 10 items (see Table 6). Reliability analyses indicated that the measure had adequate fit for both mothers (α = .78) and fathers (α = .86). The 10 items were averaged to create separate overall scales for mothers and fathers.

Process responsibility. To begin measurement development, the measures of positive engagement activities, warmth and responsiveness, control, and indirect care used in this study were reviewed and summarized in order to synthesize the core concepts that encompass each construct and their meanings. These four categories were then used to develop individual items to measure parents' process responsibility for keeping track of these four areas (i.e., to keep track that their child's needs in the previous four areas are being met in some way). Fathers and mothers were provided with the prompt "Using the following scale, indicate how frequently you keep track of the following situations." and responded to 13 items indicating how frequently they monitor that their child's needs are being met in the categories of positive engagement activities, warmth and responsiveness, control, and indirect care. Two items represented parents' process responsibility for positive engagement activities, three items represented parents' process responsibility for warmth and responsiveness, three items represented parents' process responsibility for control, and five items represented parents' process responsibility of indirect care. Response options ranged from 1 (*not at all*) to 5 (*almost always*).

As with the positive engagement activities and indirect care measures, measurement coherence needed to be established. The bivariate correlations between all

12 potential items were computed. As with the previous measures, the correlations were computed separately for mothers and fathers. For both mothers and fathers, all 12 potential items had significant strong positive relationships with several other items (see Tables 7 and 8).

Because many of the items had significant correlations with several other items that were much higher than the established .50 cutoff, several items were considered for deletion from the measure. For mothers, the items “my child has clothes that fit him/her (3),” “my child has someone in his/her life that make sure he/she finishes their homework on time (6),” “my child has someone in his/her life that enjoys doing activities with him/her (7),” “my child has someone in his/her life who sets rules for him/her to follow (8),” “my child has someone in his/her life who helps him/her set up appointments (9),” “my child has someone in his/her life that he/she can ask for help (11),” and “my child has someone in his/her life that makes sure he/she is making smart choices (12)” were considered for deletion. For fathers, the items “my child spends time doing things he/she enjoys (4),” “my child has someone in his/her life that enjoy doing activities with him/her (7),” “my child has someone in his/her life who help him/her set up appointments (9),” “my child has reliable transportation to get where he/she needs to be (10),” “my child has someone in his/her life that he/she can ask for help (11),” and “my child has someone in his/her life that makes sure he/she is making smart choices (12)” were considered for deletion.

The items “my child has someone in his/her life that enjoy doing activities with him/her (7),” “my child has someone in his/her life who help him/her set up appointments (9),” and “my child has someone in his/her life that he/she can ask for help (11)” were

removed from the measure because these items were considered for deletion for both mothers and fathers. The items “my child has clothes that fit him/her (3)” and “my child has someone in his/her life who sets rules for him/her to follow (8)” were also removed from the measure because, although the inter-item correlations were more moderate for fathers, the extremely high inter-item correlations for mothers may inflate of the overall reliability coefficient if the measure.

The final measure of process responsibility consisted of 7 items (see Table 9). Reliability analyses indicated that the measure had adequate fit for both mothers (α = .86) and fathers (α = .83). The 7 items were averaged to create separate overall scales for mothers and fathers.

Adolescent internalizing and externalizing symptoms. Adolescents responded to the Youth Self Report (YSR; Achenbach & Rescorla, 2001). The YSR consists of 113 items that assess several emotional and behavioral problems in children and adolescents. These items are used to form two overall subscales: total internalizing symptoms (α = .91), which represents problems such as depression, anxiety, and social withdrawal (e.g., “I feel that no one loves me”), and total externalizing symptoms (α = .85), which represents problem behaviors such as aggression and delinquency (e.g., “I cut classes or skip school”). Response options are on a three-point scale (0 = *not true*, 1 = *somewhat or sometimes true*, 2 = *very or often true*).

Demographic measures. All multiple regression analyses included adolescent age and gender as controls. Adolescents reported their age (in years) and gender (male = 0, female = 1).

Analysis Plan

Analyses were conducted using IBM SPSS Statistics 25 (IBM Corp.) and Mplus 6 (Muthén & Muthén, 2010). First, using the methods outlined in Clark and Watson (1995), the relationships between the scales for mothers and fathers were examined to determine if the five measures of involvement shared some commonality in describing mother or father involvement. Although these methods are usually used for describing scale development, they can, in theory, be used to describe how different measures are inter-related. The relationships between the five scales for mother and fathers were examined separately. Alpha coefficients were computed to estimate the internal consistency of the five involvement constructs in describing overall mother involvement and father involvement.

Next, five separate multiple regression models were estimated to investigate the relationships between each involvement construct reported by mothers and fathers and adolescent internalizing and externalizing symptoms. Each model included the control variables (i.e., adolescent age and gender) and measures of one of the five involvement constructs reported by both mothers and fathers. These variables were used to predict adolescent internalizing and externalizing symptoms.

Next, models were estimated to examine if gender moderates the relationship between each construct and internalizing and externalizing symptoms. Because of the small sample size, it was necessary to analyze each construct separately for mothers and fathers. Each model included one involvement construct reported by mothers or fathers, adolescent age and gender, the interaction between adolescent gender and the involvement construct, and adolescent reported internalizing and externalizing symptoms.

Finally, four separate multiple regression models were estimated to examine the unique relationships of each involvement construct in predicting adolescent internalizing and externalizing symptoms. Each model estimated how the five involvement measures for either mothers or fathers and control variables (i.e., adolescent age and gender) predicted one adolescent outcome, either internalizing or externalizing symptoms.

CHAPTER 3: Results

Table 10 presents the descriptive statistics for all study variables, and Table 11 presents the correlations between all variables of interest. Paired samples t-tests were conducted to examine if mothers and fathers differed significantly on their reports of each of the five involvement constructs. Results indicated that mothers reported more warmth and responsiveness (t (39) = 4.46, $p < .01$), more control (t (39) = 4.42, $p < .01$), more indirect care (t (37) = 5.68, $p < .01$), and more process responsibility (t (38) = 3.12, $p < .01$) than fathers. There was no significant difference between maternal and paternal reports of positive engagement activities (t (38) = 1.72, $p = .09$).

Relations Among the Five Constructs of Mother and Father Involvement

The first step was to determine how the five involvement constructs were related and how strongly the constructs were interconnected for mothers and fathers, respectively (research question 1). Specifically, the researcher was interested in how much commonality the five constructs exhibited and if those relationships were similar for mothers and fathers. Following the guidelines outlined by Watson and Clark (1995), correlations among the five parental involvement measures were calculated for mothers and fathers separately. For mothers, warmth and responsiveness was significantly correlated with control and process responsibility, and process responsibility was significantly correlated with indirect care and control (see Table 12). The significant effects ranged from .32-.47. Positive engagement activities was not significantly correlated with any of the other four involvement constructs. For fathers, positive engagement activities was significantly correlated with warmth and responsiveness, control, indirect care, and process responsibility (see Table 13). Warmth and

responsiveness was significantly correlated with control and indirect care; control was significantly correlated with indirect care and process responsibility; indirect care was significantly correlated with process responsibility. The significant relationships between the constructs ranged from .34-.50.

These correlations suggest that all five involvement constructs share some commonality in describing overall father involvement, but only warmth and responsiveness, control, indirect care, and process responsibility work well together to describe overall mother involvement. Positive engagement activities did not share much commonality with the other four constructs in describing mother involvement. Reliability coefficients for father and mother involvement were then computed. With all five constructs included, the scales showed adequate internal consistency in describing overall father involvement (α = .72) but showed relatively poor internal consistency in describing overall mother involvement (α = .58). However, the reliability of the constructs in describing overall mother involvement improved substantially when the positive engagement activities scale was removed (α = .64). These results indicate that the five constructs of Pleck's model of father involvement share more commonality for fathers than for mothers.

Relations Between Parental Involvement and Adolescent Well-Being

The next analyses focused on understanding the relative impact of each involvement construct, reported separately by mothers and fathers, on adolescent internalizing and externalizing symptoms (research question 2). To investigate how each involvement construct was related to adolescent internalizing and externalizing symptoms, five separate models were estimated. Each model estimated the effect of

mother and father reports of one involvement construct on adolescent internalizing and externalizing symptoms. Adolescent age and gender were included as control variables.

For the models investigating positive engagement activities, indirect care, and process responsibility, there were no significant effects of either mother or father involvement on adolescent internalizing or externalizing symptoms (see Figures 1, 2, and 3, respectively). However, significant effects were found in the two models investigating the effects of warmth and responsiveness and control on adolescent internalizing and externalizing symptoms. In the model estimated for warmth and responsiveness, higher levels of maternal warmth and responsiveness were associated with fewer adolescent internalizing and externalizing symptoms (see Figure 4), whereas paternal warmth and responsiveness was not significantly related to either adolescent internalizing or externalizing symptoms. This model accounted for 27% of the variance in adolescent internalizing symptoms and 44% of the variance in adolescent externalizing symptoms. In the model estimated for control, more maternal control was associated with fewer adolescent internalizing symptoms, but maternal control was not significantly associated with adolescent externalizing symptoms (see Figure 5). Paternal control was not significantly related to either adolescent internalizing or externalizing symptoms. This model accounted for 15% of the variance in adolescent internalizing symptoms and 37% of the variance in adolescent externalizing symptoms.

Moderating Effects of Adolescent Gender

The next analyses examined the moderating effect of gender on the relationships between the five parental involvement constructs and adolescent internalizing and externalizing symptoms (research question 3). To investigate the moderating effect of

gender 10 models were estimated. Each model included one involvement construct reported by mothers or fathers, age and gender, and adolescent-reported internalizing and externalizing symptoms.

For the five models investigating the moderating effects of adolescent gender on the relationships between the mother involvement constructs and adolescent internalizing and externalizing, there were no significant interaction effects between gender and maternal positive engagement activities ($B_{internalizing}$ = 8.33, *S.E.* = 4.58, p = .07; $B_{externalizing}$ = 3.34, *S.E.* = 2.26, p = .14), warmth and responsiveness ($B_{internalizing}$ = -.18, *S.E.* = 6.31, p = .98; $B_{externalizing}$ = -.09, *S.E.* = 3.59, p = .98), control ($B_{internalizing}$ = -8.08, *S.E.* = 9.30, p = .39; $B_{externalizing}$ = -6.54, *S.E.* = 6.01, p = .28), and indirect care ($B_{internalizing}$ = -4.78, *S.E.* = 6.57, p = .47; $B_{externalizing}$ = 4.82, *S.E.* = 3.32, p = .15). However, the model investigating process responsibility did include a significant interaction. The interaction between adolescent gender and maternal process responsibility was significantly associated with adolescent externalizing symptoms (B = 8.46, *S.E.* = 2.67, $p < .01$), but the interaction between adolescent gender and maternal process responsibility was not significant (B = 5.79, *S.E.* = 4.26, p = .17). This indicates that the negative relationship between maternal process responsibility and adolescent externalizing symptoms (B = -7.62, *S.E.* = 2.59, $p < .01$) is diminished for girls. Follow-up analyses that examined the significance of the conditional effects for girls and boys indicated that more maternal process responsibility was significantly related to fewer externalizing symptoms in boys (B = -7.62, *S.E.* = 2.59, $p < .01$), but there was no significant relationship between maternal process responsibility and adolescent externalizing symptoms for girls (B = .84, *S.E.* = .78, p = .28).

For the five models investigating the moderating effects of adolescent gender on the relationships between the father involvement constructs and adolescent internalizing and externalizing, there was no significant interaction between gender and paternal positive engagement activities ($B_{internalizing}$ = -1.09, *S.E.* = 2.70, p = .69; $B_{externalizing}$ = -1.06, *S.E.* = 2.14, p = .62), but significant interaction effects were present for paternal warmth, control, indirect care, and process responsibility. For the relationship between paternal warmth and responsiveness and adolescent internalizing symptoms, there was no significant interaction between adolescent gender and paternal warmth and responsiveness (B = -6.86, *S.E.* = 3.61, p = .06). For the relationship between paternal warmth and responsiveness and adolescent externalizing symptoms, the interaction between warmth and responsiveness and adolescent gender was significant (B = -6.90, *S.E.* = 2.43, p < .01). This result indicates that the positive relationship between paternal warmth and responsiveness and adolescent externalizing symptoms (B = 4.89, *S.E.* = 2.06, p < .05) is enhanced for boys. Follow-up analyses that examined the significance of the conditional effects for girls and boys indicated that more paternal warmth and responsiveness was significantly related to more externalizing symptoms in boys (B = 4.89, *S.E.* = 2.06 p < .05), but there was no significant relationship between paternal warmth and responsiveness and adolescent externalizing symptoms for girls (B = -2.01, *S.E.* = 1.36, p = .14).

There was a significant moderating effect of adolescent gender on the relationship between paternal control and internalizing symptoms (B = -9.44, *S.E.* = 3.33, p < .01) and the relationship between paternal control and externalizing symptoms (B = -7.43, *S.E.* = 3.76, p < .05). This result indicates that the positive relationships between paternal

control and adolescent internalizing (B = 7.45, *S.E.* = 2.95, $p < .05$) and externalizing symptoms (B = 5.68, *S.E.* = 3.61, $p = .12$) are enhanced for boys. Follow up analyses that examined the significance of the conditional effects for girls and boys indicated that more paternal control was significantly related to more internalizing symptoms in boys (B = 7.45, *S.E.* = 2.95, $p < .05$), but there was no significant relationship between paternal control and internalizing symptoms for girls (B = -1.98, *S.E.* = 1.60, $p = .22$). In addition, although the relationship between paternal control and adolescent externalizing symptoms was significantly moderated by adolescent gender, there was no significant relationship between paternal control and adolescent externalizing symptoms for boys (B = 5.68, *S.E.* = 3.61, $p = .12$) or girls (B = -1.75, *S.E.* = 1.10, $p = .11$).

Next, for the relationship between paternal indirect care and adolescent internalizing symptoms, there was no significant interaction between adolescent gender and paternal indirect care (B = -4.72, *S.E.* = 2.78, $p = .09$). For the relationship between paternal indirect care and adolescent externalizing symptoms, the interaction between indirect care and adolescent gender was significant (B = -4.19, *S.E.* = 1.48, $p < .01$). This result indicates that the positive relationship between paternal indirect care and adolescent externalizing symptoms (B = 3.71, *S.E.* = 1.14, $p < .01$) is enhanced for boys. Follow-up analyses indicated that more paternal indirect care was significantly related to more externalizing symptoms in boys (B = 3.71, *S.E.* = 1.14, $p < .01$), but there was no significant relationship between paternal indirect care and adolescent externalizing symptoms for girls (B = -.49, *S.E.* = .99, $p = .62$).

Finally, there was no significant interaction between adolescent gender and paternal process responsibility (B = -3.61, *S.E.* = 2.51, $p = .15$). For the relationship

between paternal process responsibility and adolescent externalizing symptoms, the interaction between process responsibility and adolescent gender was significant (B = -4.92, $S.E.$ = 1.85, $p < .01$). This result indicates that the positive relationship between paternal process responsibility and adolescent externalizing symptoms (B = 3.77, $S.E.$ = 1.69, $p < .05$) is enhanced for boys. Follow-up analyses indicated that more paternal process responsibility was significantly related to more externalizing symptoms in boys (B = 3.77, $S.E.$ = 1.69, $p < .05$), but there was no significant relationship between paternal process responsibility and adolescent externalizing symptoms for girls (B = -1.15, $S.E.$ = 1.02, $p = .26$).

Unique Contributions of Parental Involvement Constructs to Adolescent Wellbeing

The final set of analyses was conducted to investigate the unique effects of the five involvement constructs on adolescent internalizing and externalizing symptoms (research question 4). In total, four models were estimated. The models were conducted separately for mothers and fathers due to the small sample size. Each model included all five constructs of parental involvement reported by one parent (mother or father), and one of the adolescent outcome measures, either internalizing or externalizing symptoms. Adolescent age and gender were also included as control variables in each of the four models.

In the internalizing and externalizing models describing the unique effects of the five mother involvement constructs on adolescent well-being, only warmth and responsiveness were significantly related to adolescent outcomes. Higher levels of maternal warmth and responsiveness were associated with fewer adolescent internalizing (see Figure 6) and externalizing symptoms (see Figure 7) while controlling on the other

four maternal involvement constructs. The models accounted for 35% of the variance in adolescent internalizing symptoms and 53% of the variance in adolescent externalizing symptoms.

In the two models investigating the five father constructs, different aspects of parental involvement were related to adolescent internalizing and externalizing symptoms. In the model investigating adolescent internalizing symptoms, higher levels of paternal positive engagement activities were associated with lower levels of adolescent internalizing symptoms (see Figure 8). In the model investigating adolescent externalizing symptoms, unexpectedly, higher levels of paternal indirect care were associated with higher levels of adolescent externalizing symptoms (see Figure 9). The models accounted for 21% of the variance in adolescent internalizing symptoms and 49% of the variance in adolescent externalizing symptoms.

CHAPTER 4: Discussion

This study was one of the first to investigate the relationships between the five constructs of Pleck's model of father involvement (2010) and adolescent internalizing and externalizing symptoms. The researcher sought to answer four main research questions: (1) Is there evidence that the five components of Pleck's theoretical model are part of a broader construct of father involvement and mother involvement during adolescence? (2) How are mother and father involvement each associated with adolescent internalizing and externalizing symptoms, and are these relationships moderated by adolescent's gender? (3) Are the associations between mother and father involvement and adolescent internalizing and externalizing symptoms moderated by the adolescent's gender? and (4) Do the new components from Pleck's model of father involvement (i.e., indirect care and process responsibility) make a unique contribution to adolescent internalizing and externalizing symptoms?

First, bivariate correlations and reliability analyses indicated that the five components of father involvement in Pleck's model share more commonality for fathers than for mothers. Next, multiple regression analyses investigated the relationship between each parental involvement construct and adolescent internalizing and externalizing symptoms. Results indicated that, while controlling on fathers' self-reports, mothers who reported higher levels of warmth and responsiveness and control had adolescent children with fewer internalizing symptoms, but there were no significant relationships with externalizing symptoms. Mothers' self-reported positive engagement activities, indirect care, and process responsibility were not significantly related to adolescent internalizing

or externalizing symptoms. Moreover, fathers' self-reports of all five constructs were not significantly related to either internalizing or externalizing symptoms.

Additionally, when investigating the moderating effects of adolescent gender on the relationships between parental involvement and adolescent internalizing and externalizing symptoms, results indicated that the relationship between maternal process responsibility and adolescent externalizing symptoms was significant for boys but not for girls. This pattern was also seen for the relationships between paternal warmth and responsiveness and adolescent externalizing symptoms, paternal control and adolescent externalizing symptoms, paternal indirect care and adolescent externalizing symptoms, and paternal process responsibility and adolescent externalizing symptoms. Finally, multiple regressions investigated the unique effects of either mother or father-reported involvement on adolescent internalizing and externalizing symptoms. Results indicated that, while controlling on all constructs of parental involvement, more maternal warmth and responsiveness was related to fewer adolescent internalizing and externalizing symptoms. In addition, higher levels of paternal positive engagement activities were related to lower levels of internalizing symptoms, and lower levels of paternal indirect care were related to lower levels of externalizing symptoms.

Because Pleck's model of father involvement is intended to describe only father involvement, the first goal of the study was to investigate how much commonality the five constructs of father involvement share and if these constructs are similarly related to each other for mothers and fathers. Research tends to try to use theoretical models developed to primarily describe mothers (Lamb, 2010) to examine maternal and paternal influences on child outcomes, but it is important to determine if this is appropriate, or if a

more diverse model is needed when looking at the importance of mothers and father involvement.

When investigating mother involvement, the bivariate relationships indicated that warmth and responsiveness, control, indirect care, and process responsibility were highly related to each other, while the construct of positive engagement activities was not related to the other constructs. Additionally, for fathers, all five constructs had strong significant relationships with one another. This partially supported the hypothesis that indirect care and process responsibility would be represented more in father involvement than in mother involvement, and did not support the hypothesis that the more traditional constructs of positive engagement activities, warmth and responsiveness, and control would be more important for mother involvement than for father involvement. This could indicate that Pleck's model of father involvement may describe overall father involvement better than overall mother involvement.

It is important to note that mothers reported that they exhibited warmth and responsiveness, control, indirect care, and process responsibility significantly more than fathers, which is consistent with other research that has shown that, overall, mothers spend more time engaged in parenting behaviors than fathers (Lamb, 2010). Although mothers reported more engagement in most of the parenting behaviors than fathers, the constructs seemed to describe overall involvement better for fathers than for mothers. In particular, the construct of positive engagement activities was related to the aspects of Pleck's model for fathers but not for mothers. This is consistent with research that indicates fathers spend the majority of their time playing with their children and engaging in high energy activities compared to mothers (Jia, Kotila, & Schoppe-Sullivan, 2012;

Kazura, 2000). These results indicate that, although father involvement is not exclusively described by the time spent with children, fathers' positive engagement with their children is a key component of father involvement but not mother involvement.

In addition, these results support claims made by others that either a separate model is needed to examine father involvement (i.e., Lamb, Pleck, Charnov, & Levine, 1985), or a broader and more inclusive perspective is needed to examine maternal and paternal involvement (Cabrera, Volling, & Barr, 2018). Perhaps it is important to look at fathers with a broader lens to fully capture fathers' role in their children's development, while mothers' importance, while still crucial to well-being, can be represented by fewer components of the larger model. Further research is needed to fully examine if Pleck's model of father involvement can be used to enhance other theories of father involvement (Cabrera, Fitzgerald, Bradley, & Roggman, 2014) or as a guide for developing more integrated models of parental involvement.

It is notable that the construct of positive engagement activities was not significantly related to the other constructs for mothers but was significantly related for fathers. This could be because very involved mothers focus on providing emotional support, setting guidelines and rules, and monitoring their child's needs rather than doing activities with their child. Research has shown that mothers tend to spend more time engaged in activities with their children and completing tasks for their children than do fathers (Craig, 2006), so these results may indicate that a highly involved mother may focus on other aspects of the parent-child relationship rather than concrete actions and time spent with their children. On the other hand, because fathers tend to spend less time with their children overall, time spent engaging in activities with their child may better

describe a highly involved father. These results also may indicate that fathers use engagement activities to develop stronger relationships with their children, which may be why past research has found that fathers spend the majority of their time playing and engaging in activities with their children (Lamb, 2000). These fathers may be using the time they spend engaged with their children to develop strong bonds with their children, and research has shown that engaging in activities with others is a significant factor in building intimate relationships for men (Radmacher & Azmitia, 2006).

The next study goal was to examine how the different aspects of father and mother involvement were related to adolescent internalizing and externalizing symptoms. First, models were estimated to examine how each parental involvement construct was related to adolescent internalizing and externalizing symptoms. Results indicated that, while controlling on fathers' self-reports, more self-reported maternal warmth and responsiveness and control were each related to fewer adolescent internalizing symptoms. These results partially supported the research hypotheses and are consistent with other research that has shown the positive effects of maternal warmth and monitoring on adolescent well-being (Barber et al., 2005; Eisenberg, Zhou, Spinrad, Valiente, Fabes, & Liew, 2005; Grusec, 2011). Mothers who are emotionally supportive but still set rules for their children provide comfort and guidance for children that can help to alleviate feelings of loneliness or hopelessness, which are typical symptoms of internalizing problems.

When controlling on maternal involvement, none of the five constructs paternal involvement were significantly related to adolescent internalizing or externalizing symptoms. These results did not support the hypotheses that the father involvement

constructs would be negatively related to adolescent internalizing and externalizing symptoms. This could be because the effects of father involvement tend to be smaller than mother involvement and parental involvement in general (Jeynes, 2015). Because this study had a small sample size, smaller effects would not be significant. Further research with larger and more diverse samples is needed to determine if the effects found in this study are representative of the influence fathers have on adolescent well-being.

Next, the study sought to examine if adolescent's gender moderated the effects of maternal and paternal involvement on adolescent internalizing and externalizing symptoms. Results indicated that, except for the construct of process responsibility, the relationship between maternal involvement and adolescent internalizing and externalizing symptoms was not moderated by adolescent gender. In contrast, paternal warmth and responsiveness, control, indirect care, and process responsibility was significantly related to adolescent externalizing (and occasionally internalizing) symptoms for boys, but not for girls. These results partially support the hypotheses; the relationship between father involvement and adolescent problem behaviors was stronger for sons than daughters, but there was no difference between sons and daughters in the relationship between mother involvement and adolescent problem behaviors. The results for father involvement are consistent with other research that suggests same-sex dyads have stronger impacts on outcomes (Hoeve, Dubas, Eichelsheim, van der Laan, Smeenk, & Gerris, 2009). However, the results investigating maternal involvement are not consistent with prior research. Fathers who notice problematic behavior in their sons may work to engage in higher levels of positive parenting strategies, such as providing more emotional support or becoming more involved in aspects of the adolescent's life in order to mitigate this

inappropriate behavior. Mothers, in contrast, do influence adolescent well-being, but that influence seems to not be limited to either sons of daughters. Further research is needed to fully investigate the moderating effect of adolescent gender on the relationships between maternal and paternal involvement and adolescent internalizing and externalizing symptoms.

Finally, the study sought to examine the unique effects of any of the involvement constructs on adolescent internalizing or externalizing symptoms while controlling on all other involvement constructs for either mothers or fathers. Results indicated that, for mothers, higher levels of warmth and responsiveness were related to lower levels of adolescent internalizing and externalizing symptoms while controlling on all other maternal involvement constructs. These results partially support the hypotheses and are consistent with other research that suggests the importance of warmth and responsiveness for the mother-adolescent relationship (Eisenberg et al., 2005; Grusec, 2011). A significant influence of warmth and responsiveness on both internalizing and externalizing symptoms while controlling on other aspects of maternal involvement indicates how important emotional support is for the mother involvement and adolescent well-being. Above all, a warm and caring mother who provides comfort and emotional support to their child promotes better outcomes in adolescents.

Analyses of the relationships of father involvement show different results. Higher frequency of positive engagement activities was related to lower levels of adolescent internalizing symptoms, which is consistent with previous research on father involvement (Bai, Reynolds, Robles, & Repetti, 2017). Fathers who engage frequently in positive interactions with their children may be showing that they value that time spent, and,

through actions, display their love and affection for their children. This love through shared activities can help the child feel valued and supported and can help alleviate any emotional distress displayed by internalizing symptoms.

Surprisingly, higher levels of indirect care were related to higher levels of adolescent externalizing symptoms. This could indicate that there is an aspect of indirect care that, after controlling for all other positive effects of father involvement, has a maladaptive effect on externalizing symptoms. Perhaps some indirect care activities, such as arranging social gatherings, arranging transportation, or managing the adolescent's finances, may be indicative of an over-controlling or intrusive parent. Fathers who are over-controlling may drive their child to rebel due to frustration and engage in externalizing behaviors such as aggression or delinquency.

This unexpected effect could also be a result of the study's cross-sectional design. As discussed earlier, because adolescents reported their externalizing behavior at the same time point that the fathers reported their indirect care, it is possible that the problematic behavior preceded the paternal involvement. Fathers may notice that their children are displaying these problematic behaviors and start to engage in more indirect care in order to create a more stable or structured environment for their child. In addition, in the analyses investigating the moderating effect of adolescent gender on the relationship between father involvement and adolescent outcomes, the results indicated that, for sons, more involvement was related to more adolescent problems. Research has shown that father involvement increases when adolescents display problem behaviors (Coley & Medeiros, 2007). Thus, fathers with adolescents, especially sons who are showing externalizing behaviors such as aggression or delinquency may start to become

more involved with their children to help guide their child and provide more structure and support for their adolescent. More research is needed to fully understand this relationship.

These results are important for parenting interventions aimed at increasing mother and father involvement to prevent adolescent problem behavior. These results indicate that interventions should focus on increasing warmth, emotional support, and monitoring for mothers, while increasing the amount of time fathers spend engaged in activities with their teenagers. In addition, these results can help intervention efforts by highlighting the need to assess beneficial parental involvement through a broader perspective than what has been previously used when trying to engage both mothers and fathers.

This study has several limitations. First, the decisions made during the development of the measures of positive engagement activities, indirect care, and process responsibility may influence the results. In order to allow for the measures of mother and father involvement to be compared, concessions had to be made in the deletion of items from the new scales. Some items that worked well for mothers but not fathers (or vice versa) were removed in order to make all of the items included in the final scales applicable for both mothers and fathers. Removing these items may mean that the final scale does not fully capture the construct for that particular parent. Future research that focuses on the appropriateness of various scale items for both mothers and fathers would be valuable in helping to explore if the five constructs of involvement as proposed by Pleck are different for mothers and fathers. Perhaps, instead of creating a scale that applies to both mothers and fathers, future research could explore if two separate scales for each construct would be more appropriate in describing mother and father involvement.

Also, this study was conducted with a small, homogeneous U.S. sample. Because of this, these results may not be applicable to samples from elsewhere in the U.S. or international samples. In addition, a larger sample size would allow for more sophisticated analyses to be conducted, and would allow for smaller effects to be detected. Future studies should use Pleck's model of father involvement in large, diverse samples in order to better understand how well this model describes parental involvement. Latent variables would be more informative in investigating how the five constructs capture overall mother and father involvement. Also, this study was cross-sectional in nature, which does not allow for causal inference. This study cannot be used to determine if parental involvement causes adolescent internalizing and externalizing symptoms. Longitudinal research is needed in order to determine the direction of effects, which could help researchers understand the unexpected results of paternal indirect care on adolescent externalizing symptoms. Finally, because Pleck's model of father involvement is not frequently used to examine adolescent development, several of the measures used in this study have not been fully validated. In particular, the new measures of indirect care and process responsibility need to be validated in diverse and much larger samples. Future research can also focus on validating these new measures.

Despite these limitations, this study is among the first to examine the importance of Pleck's model of father involvement, how this model describes mother involvement, and how the constructs of positive engagement activities, warmth and responsiveness, control, indirect care, and process responsibility are related to adolescent internalizing and externalizing symptoms. These findings highlight that the five constructs do describe father involvement better than mother involvement, and that there are differences

between mothers and father in which aspects of involvement are related to adolescent well-being. Future parental involvement research needs to fully examine diverse aspects of both mother and father involvement without constraining the research to traditionally-examined concepts.

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Table 1. Correlations between items for the **mother** positive engagement activities scale.

	2	3	4	5	6	7	8	9	10	11
1. Attend church or other religious service	.00	.15	-.11	.13	-.09	-.01	.06	.13	.12	.08
2. Go shopping	-	.39**	.32*	.46**	.22	.11	.56**	.15	.28*	.36**
3. Play a sport or participate in an outdoor activity	-	-	.48**	.40**	.18	.15	.39**	.16	.10	.20
4. Go to entertainment, movies, or sporting events	-	-	-	.40**	.38**	.31*	.28*	.02	.19	-.01
5. Help with homework or a school project	-	-	-	-	.26	.27	.40*	.19	.30*	.06
6. Attend a community event or festival	-	-	-	-	-	.13	.09	-.15	.09	.00
7. Play a video game, board game, or other indoor activity	-	-	-	-	-	-	.16	.09	.12	-.01
8. Bake or cook a meal together	-	-	-	-	-	-	-	.25	.40**	.46**
9. Have a conversation	-	-	-	-	-	-	-	-	.10	.54**
10. Watch television together	-	-	-	-	-	-	-	-	-	.37**
11. Eat a meal together	-	-	-	-	-	-	-	-	-	-

Note: *$p < .05$, **$p < .01$.

Table 2. Correlations between items for the **father** positive engagement activities scale.

	2	3	4	5	6	7	8	9	10	11
1. Attend church or other religious service	-.21	.02	-.01	.28	-.06	-.03	-.08	.26	.06	.32*
2. Go shopping	-	.14	-.03	.03	-.15	.29	.38*	.10	.36*	.00
3. Play a sport or participate in an outdoor activity	-	-	.40**	.05	.29	.15	.37*	.10	.28	-.14
4. Go to entertainment, movies, or sporting events	-	-	-	.05	.25	.30	.07	.05	.19	.11
5. Help with homework or a school project	-	-	-	-	-.08	.17	.05	.14	.05	.24
6. Attend a community event or festival	-	-	-	-	-	.03	.02	-.33*	.07	-.11
7. Play a video game, board game, or other indoor activity	-	-	-	-	-	-	.37*	.10	.38*	.35*
8. Bake or cook a meal together	-	-	-	-	-	-	-	.32*	.50**	.09
9. Have a conversation	-	-	-	-	-	-	-	-	.28	.50**
10. Watch television together	-	-	-	-	-	-	-	-	-	.23
11. Eat a meal together	-	-	-	-	-	-	-	-	-	-

Note: *$p < .05$, **$p < .01$.

Table 3. Items included in the final positive engagement activity scale for mothers and fathers.

Using the following scale, indicate how frequently you have engaged in the following activities with your child in the past 3 months.
1. Go shopping
2. Play a sport or participate in an outdoor activity
3. Go to entertainment, movies, or sporting events
4. Play a video game, board game, or other indoor activity
5. Bake or cook a meal together
6. Watch television together

Note: Higher scores indicate more frequent positive engagement.

Table 4. Correlations between items for the **mother** indirect care scale.

	2	3	4	5	6	7	8	9	10
1. Setting up bank accounts and/or managing your child's money	.43**	.36**	.16	.29*	.34*	.46**	.21	.30*	.58**
2. Setting up meetings with potential employers or educators	-	.53**	-.02	.09	.12	.33*	-.00	.15	.64**
3. Doing chores/housework	-	-	-.03	.11	.27	.19	.01	.03	.46**
4. Purchasing groceries	-	-	-	.40**	.29*	.47**	.46**	.58**	.11
5. Scheduling doctor and/or dentist appointments	-	-	-	-	.20	.29*	.38**	.26	.17
6. Attending parent-teacher conferences	-	-	-	-	-	.44**	.25	.27	.36**
7. Purchasing essential items, such as clothing and school supplies	-	-	-	-	-	-	.08	.35*	.37**
8. Cooking/preparing meals	-	-	-	-	-	-	-	.23	.14
9. Making sure child has reliable transportation	-	-	-	-	-	-	-	-	.18
10. Arranging social events or gatherings that involve your child	-	-	-	-	-	-	-	-	-

Note: *$p < .05$, **$p < .01$.

Table 5. Correlations between items for the **father** indirect care scale.

	2	3	4	5	6	7	8	9	10
1. Setting up bank accounts and/or managing your child's money	.48**	.27	.31*	.29	.35*	.20	.32*	.21	.23
2. Setting up meetings with potential employers or educators	-	.51**	.30	.44**	.33*	.31	.57**	.09	.31
3. Doing chores/housework	-	-	.18	.26	.40**	.27	.27	.28	.27
4. Purchasing groceries	-	-	-	.72**	.38*	.75**	.56**	.58**	.37*
5. Scheduling doctor and/or dentist appointments	-	-	-	-	.40**	.69**	.62**	.48**	.50**
6. Attending parent-teacher conferences	-	-	-	-	-	.36*	.38*	.43*	.39*
7. Purchasing essential items, such as clothing and school supplies	-	-	-	-	-	-	.54**	.41**	.44**
8. Cooking/preparing meals	-	-	-	-	-	-	-	.58**	.61**
9. Making sure child has reliable transportation	-	-	-	-	-	-	-	-	.42**
10. Arranging social events or gatherings that involve your child	-	-	-	-	-	-	-	-	-

Note: *$p < .05$, **$p < .01$.

Table 6. Items included in the final indirect care scale for mothers and fathers.

Using the following scale, indicate how often you are responsible for the following actions for your child.
1. Setting up bank accounts and/or managing your child's money
2. Setting up meetings with potential employers or educators
3. Doing chores/housework
4. Purchasing groceries
5. Scheduling doctor and/or dentist appointments
6. Attending parent-teacher conferences
7. Purchasing essential items, such as clothing and school supplies
8. Cooking/preparing meals
9. Making sure child has reliable transportation
10. Arranging social event or gatherings that involve your child

Note: Higher scores indicate more endorsement of indirect care behaviors.

Table 7. Correlations between items for the **mother** process responsibility scale.

	2	3	4	5	6	7	8	9	10	11	12
1. My child eats regular meals.	.44**	.60**	.34*	.47**	.49**	.60**	.66**	.48**	.46**	.71**	.68**
2. My child has someone around that comforts him/her when he/she is upset or sad.	-	.52**	.68**	.54**	.67**	.44**	.37**	.37**	.29*	.45**	.42**
3. My child has clothes that fit him/her.	-	-	.50**	.65**	.50**	.79**	.76**	.71**	.64**	.77**	.72**
4. My child spends time doing things he/she enjoys.	-	-	-	.71**	.47**	.61**	.31*	.28*	.10	.25	.35*
5. My child has someone in his/her life that help him/her meet new people.	-	-	-	-	.43**	.70**	.47**	.41**	.34*	.44**	.49**
6. My child has someone in his/her life that make sure he/she finishes their homework on time.	-	-	-	-	-	.53**	.70**	.52**	.45**	.60**	.67**
7. My child has someone in his/her life that enjoy doing activities with him/her.	-	-	-	-	-	-	.73**	.56**	.49**	.57**	.65**
8. My child has someone in his/her life who sets rules for him/her to follow.	-	-	-	-	-	-	-	.67**	.73**	.75**	.80**
9. My child has someone in his/her life who help him/her set up appointments.	-	-	-	-	-	-	-	-	.78**	.66**	.65**
10. My child has reliable transportation to get where he/she needs to be.	-	-	-	-	-	-	-	-	-	.54**	.54**
11. My child has someone in his/her life that he/she can ask for help.	-	-	-	-	-	-	-	-	-	-	.77**
12. My child has someone in his/her life that makes sure he/she is making smart choices.	-	-	-	-	-	-	-	-	-	-	-

Note: *$p < .05$, **$p < .01$.

Table 8. Correlations between items for the **father** process responsibility scale.

	2	3	4	5	6	7	8	9	10	11	12
1. My child eats regular meals.	.68**	.49**	.33*	.32*	.31	.46**	.37*	.26	.35*	.44**	.29
2. My child has someone around that comforts him/her when he/she is upset or sad.	-	.55**	.63**	.51**	.49**	.72**	.40*	.46**	.49**	.60**	.47**
3. My child has clothes that fit him/her.	-	-	.60**	.38*	.43**	.62**	.41**	.44**	.60**	.62**	.38*
4. My child spends time doing things he/she enjoys.	-	-	-	.68**	.33*	.63**	.34*	.55**	.50**	.58**	.36**
5. My child has someone in his/her life that help him/her meet new people.	-	-	-	-	.47**	.65**	.38*	.59**	.23	.35*	.44**
6. My child has someone in his/her life that make sure he/she finishes their homework on time.	-	-	-	-	-	.60**	.32*	.55**	.33*	.56**	.57**
7. My child has someone in his/her life that enjoy doing activities with him/her.	-	-	-	-	-	-	.40**	.63**	.51**	.61**	.53**
8. My child has someone in his/her life who sets rules for him/her to follow.	-	-	-	-	-	-	-	.60**	.67**	.67**	.71**
9. My child has someone in his/her life who help him/her set up appointments.	-	-	-	-	-	-	-	-	.58**	.68**	.68**
10. My child has reliable transportation to get where he/she needs to be.	-	-	-	-	-	-	-	-	-	.81**	.67**
11. My child has someone in his/her life that he/she can ask for help.	-	-	-	-	-	-	-	-	-	-	.74**
12. My child has someone in his/her life that makes sure he/she is making smart choices.	-	-	-	-	-	-	-	-	-	-	-

Note: *$p < .05$, **$p < .01$.

Table 9. Items included in the final process responsibility scale for mothers and fathers.

Using the following scale, indicate how frequently you keep track of the following situations.
1. My child eats regular meals.
2. My child has someone around that comforts him/her when he/she is upset or sad.
3. My child spends time doing things he/she enjoys.
4. My child has someone in his/her life that help him/her meet new people.
5. My child has someone in his/her life that make sure he/she finishes their homework on time.
6. My child has reliable transportation to get where he/she needs to be.
7. My child has someone in his/her life that makes sure he/she is making smart choices.

Note: Higher scores indicate more endorsement of process responsibility.

Table 10. Descriptive statistics for all variables included in analyses.

	M	*SD*
Mother		
Positive Engagement Activities	3.41	.70
Warmth and Responsiveness	4.37	.37
Control	4.07	.35
Indirect Care	3.94	.58
Process Responsibility	4.37	.66
Father		
Positive Engagement Activities	3.14	.76
Warmth and Responsiveness	3.85	.57
Control	3.74	.45
Indirect Care	3.02	.79
Process Responsibility	3.96	.72
Adolescent		
Gender [a]	.53	.50
Age	15.02	1.36
Internalizing Symptoms	10.26	8.50
Externalizing Symptoms	6.47	5.21

Note: [a] Male = 0, Female = 1.

Table 11. Correlations between all study variables.

		2	3	4	5	6	7	8	9	10	11	12	13	14
Mother														
1	Positive Engagement Activities	.21	.08	.15	.07	.46**	-.02	.28	-.08	.12	.04	-.15	-.26	-.26
2	Warmth and Responsiveness	-	.41**	.26	.32*	-.04	-.08	.17	-.04	-.02	.21	.16	-.52**	-.37*
3	Control	-	-	.15	.34*	-.03	-.02	.27	-.12	.01	.23	.01	-.27	-.15
4	Indirect Care	-	-	-	.47**	-.08	-.03	-.02	-.06	-.05	-.04	-.31*	-.00	-.07
5	Process Responsibility	-	-	-	-	.04	-.01	-.01	-.21	-.01	-.10	-.13	-.15	.04
Father														
6	Positive Engagement Activities	-	-	-	-	-	.45**	.34*	.37*	.37*	-.26	-.22	-.15	-.02
7	Warmth and Responsiveness	-	-	-	-	-	-	.39*	.50**	.26	.12	-.25	.09	-.04
8	Control	-	-	-	-	-	-	-	.41*	.34*	.08	-.11	.05	-.12
9	Indirect Care	-	-	-	-	-	-	-	-	.41*	-.12	-.08	.24	.25
10	Process Responsibility	-	-	-	-	-	-	-	-	-	-.12	-.38*	.24	.05
Adolescent														
11	Gender	-	-	-	-	-	-	-	-	-	-	-.02	-.15	-.59**
12	Age	-	-	-	-	-	-	-	-	-	-	-	-.18	-.15
13	Internalizing Symptoms	-	-	-	-	-	-	-	-	-	-	-	-	.56**
14	Externalizing Symptoms	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: [a] Male = 0, Female = 1. *$p < .05$, ** $p < .01$.

Table 12. Correlations between scales for overall **mother** involvement.

	2	3	4	5
1. Positive Engagement Activities	.21	.08	.15	.07
2. Warmth and Responsiveness	-	.41**	.26	.32*
3. Control	-	-	.15	.34*
4. Indirect Care	-	-	-	.47**
5. Process Responsibility	-	-	-	-

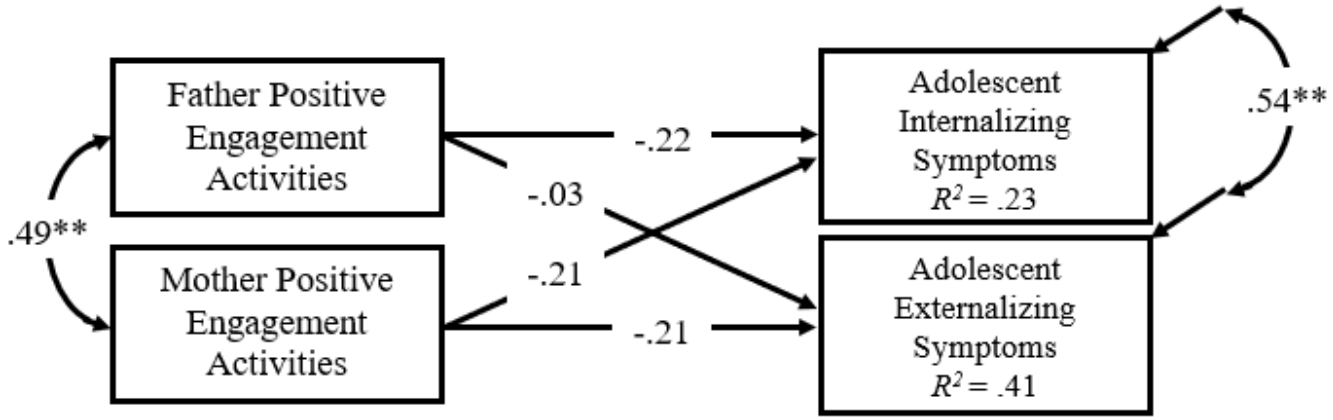
Note: *$p < .05$, **$p < .01$.

Table 13. Correlations between scales for overall **father** involvement.

	2	3	4	5
1. Positive Engagement Activities	.45**	.34*	.37*	.37*
2. Warmth and Responsiveness	-	.39*	.50**	.26
3. Control	-	-	.41*	.34*
4. Indirect Care	-	-	-	.41*
5. Process Responsibility	-	-	-	-

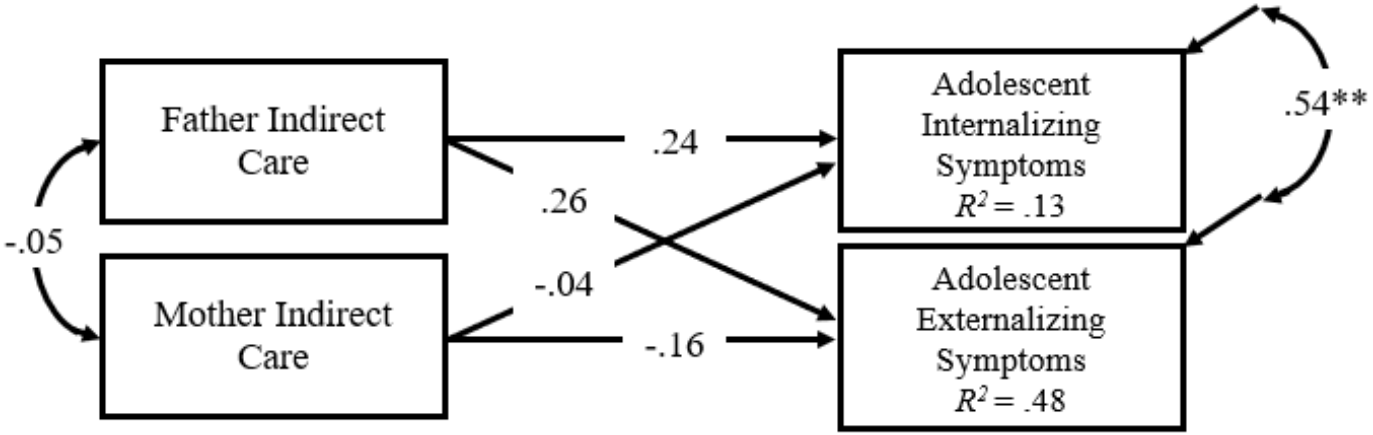
Note: *$p < .05$, ** $p < .01$.

Figure 1. Father and mother positive engagement activities and their relations to adolescent internalizing and externalizing symptoms.



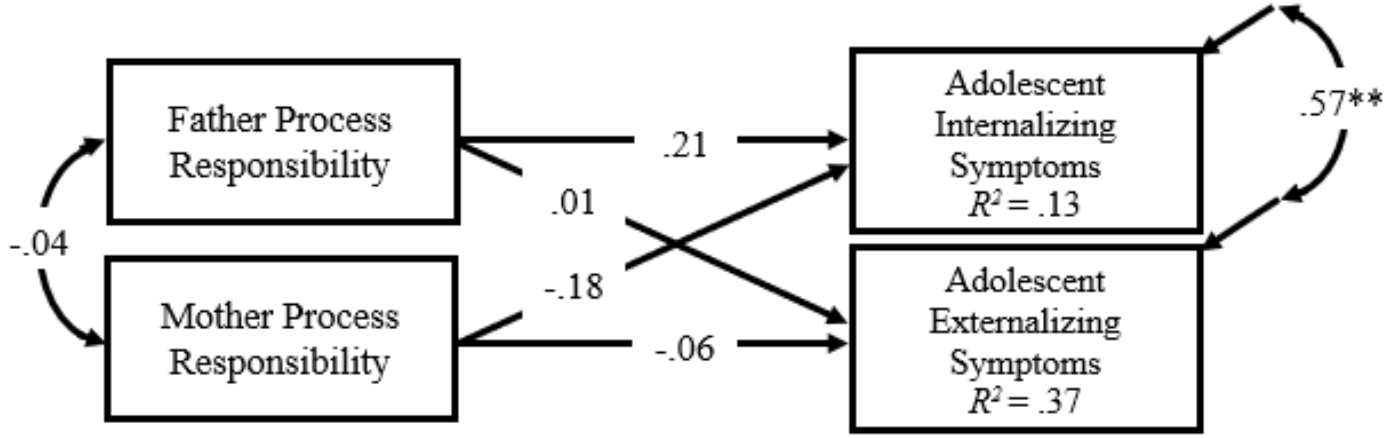
Note: Standardized estimates are reported. Adolescent age and gender were included as controls. χ^2 (4) = 4.270, p = .371; *RMSEA* = .039; *CFI* = .989. *p < .05, ** p < .01.

Figure 2. Father and mother indirect care and their relations to adolescent internalizing and externalizing symptoms.



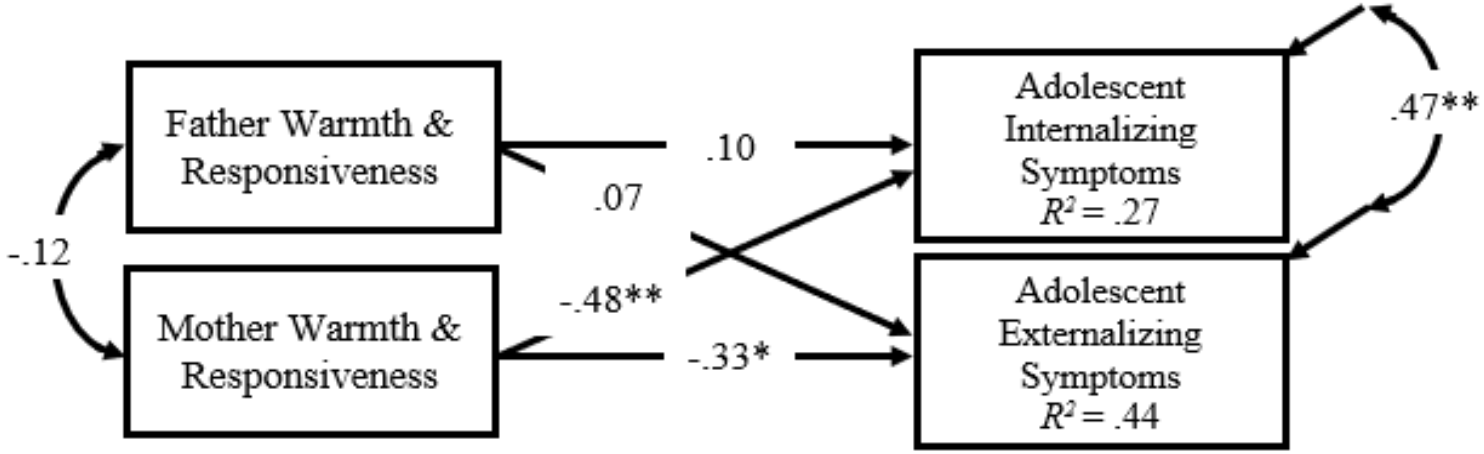
Note: Standardized estimates are reported. Adolescent age and gender were included as controls. χ^2 (4) = 4.913, p = .268; *RMSEA* = .072; *CFI* = .958. *p < .05, ** p < .01.

Figure 3. Father and mother process responsibility and their relations to adolescent internalizing and externalizing symptoms.



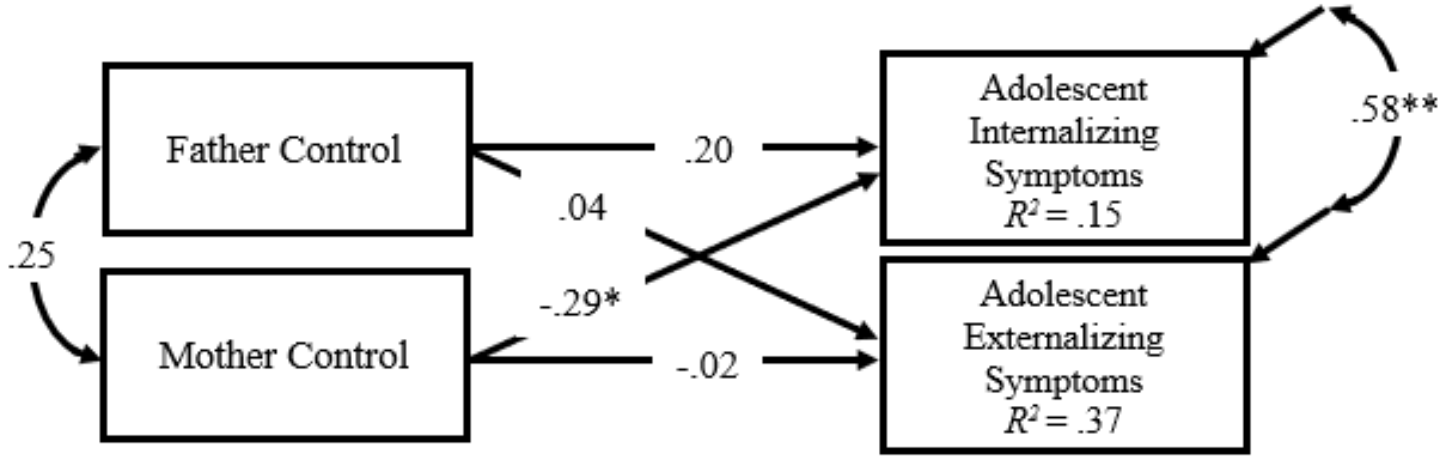
Note: Standardized estimates are reported. Adolescent age and gender were included as controls. χ^2 (4) = 8.425, p = .077; *RMSEA* = .159; *CFI* = .791. *p < .05, ** p < .01.

Figure 4. Father and mother warmth and responsiveness and their relations to adolescent internalizing and externalizing symptoms.



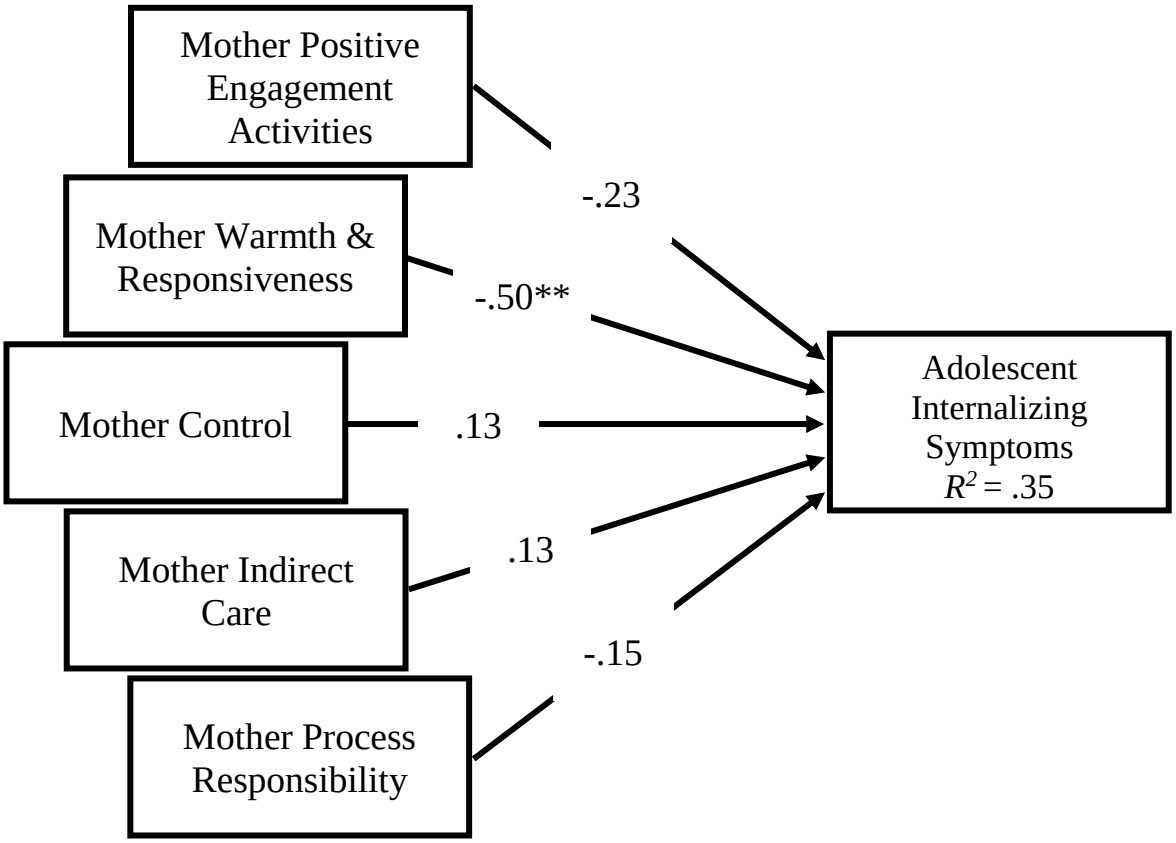
Note: Standardized estimates are reported. Adolescent age and gender were included as controls. χ^2 (4) = 7.583, p = .108; *RMSEA* = .143; *CFI* = .878. *$p < .05$, ** $p < .01$.

Figure 5. Father and mother control and their relations to adolescent internalizing and externalizing symptoms.



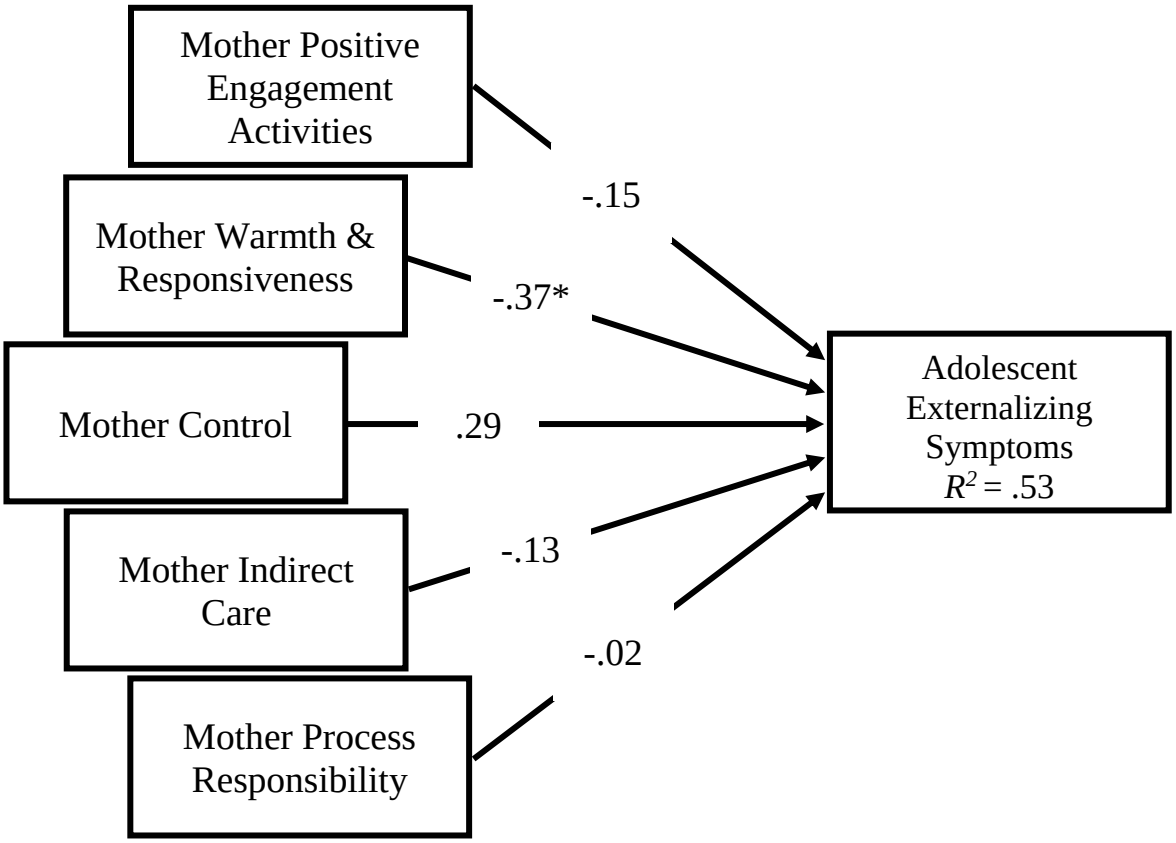
Note: Standardized estimates are reported. Adolescent age and gender were included as controls. χ^2 (4) = 2.756, p = .599; *RMSEA* = .00; *CFI* = 1.000. *$p < .05$, ** $p < .01$.

Figure 6. The five mother involvement constructs and their relationships with adolescent internalizing symptoms.



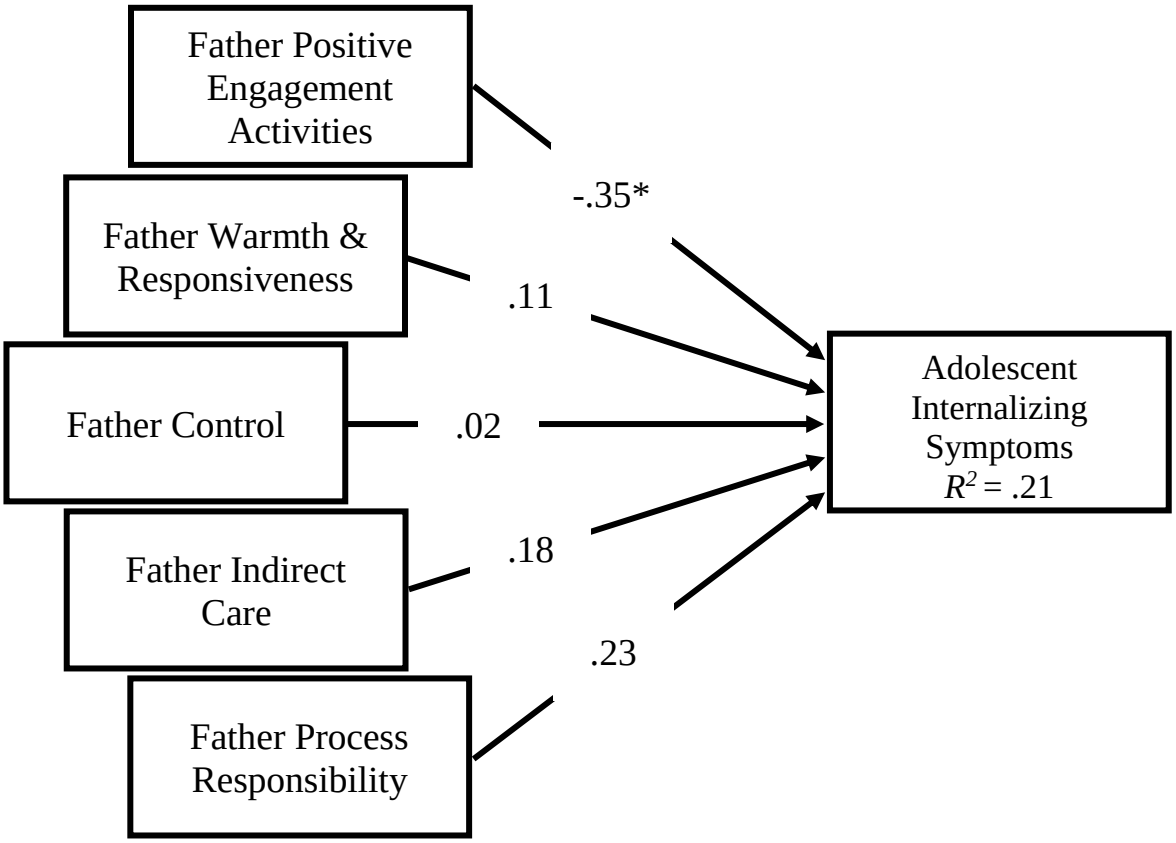
Note: Standardized estimates are reported. Adolescent age and gender were included as controls. Model fit statistics are not available as the model was just-identified. *$p < .05$, ** $p < .01$.

Figure 7. The five mother involvement constructs and their relationships with adolescent externalizing symptoms.



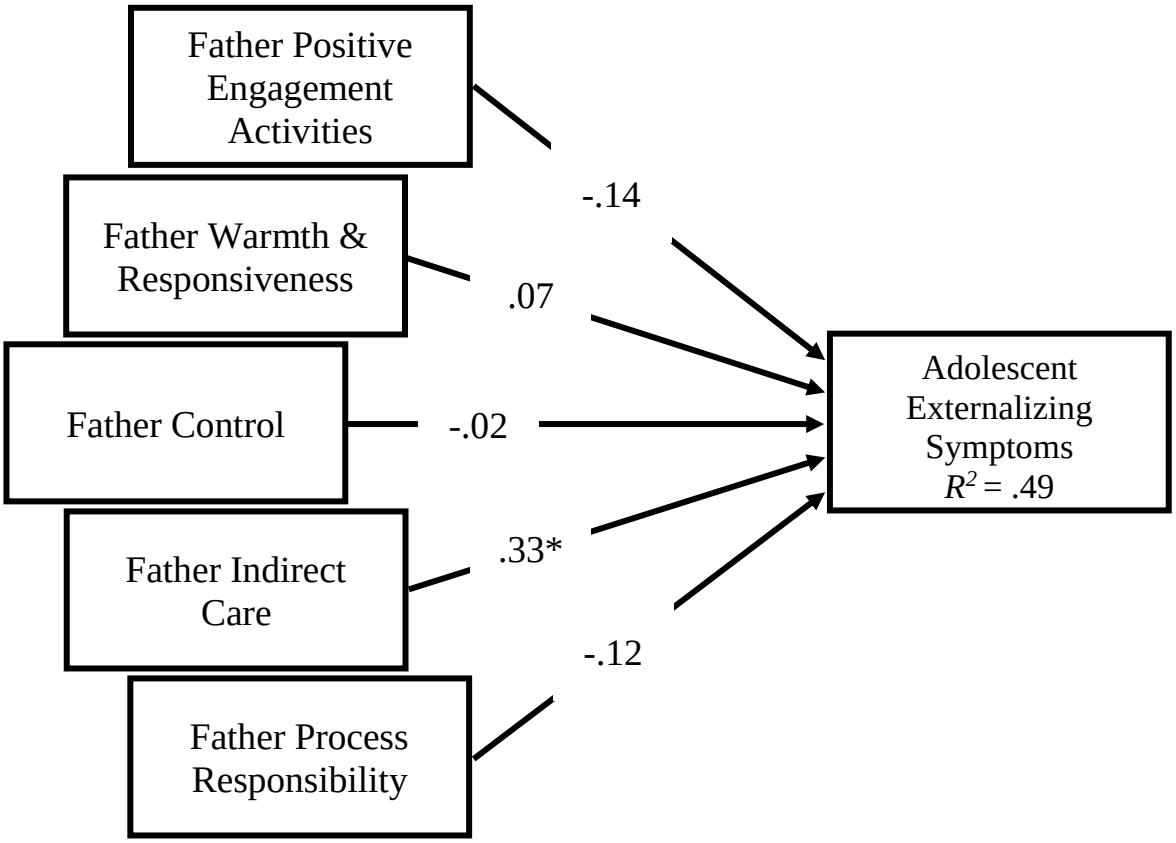
Note: Standardized estimates are reported. Adolescent age and gender were included as controls. Model fit statistics are not available as the model was just-identified. *$p < .05$, ** $p < .01$.

Figure 8. The five father involvement constructs and their relationships with adolescent internalizing symptoms.



Note: Standardized estimates are reported. Adolescent age and gender were included as controls. Model fit statistics are not available as the model was just-identified. *p < .05, ** p < .01.

Figure 9. The five father involvement constructs and their relationships with adolescent externalizing symptoms.



Note: Standardized estimates are reported. Adolescent age and gender were included as controls. Model fit statistics are not available as the model was just-identified. *$p < .05$, ** $p < .01$.